AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

Title 46—Shipping

(This book contains Parts 70–89)

Part

CHAPTER I—Coast Guard, Department of Transportation (Continued) 70

CHAPTER I—COAST GUARD, DEPARTMENT OF TRANSPORTATION (CONTINUED)

SUBCHAPTER H—PASSENGER VESSELS

Part		*Page*
70	General provisions	5
71	Inspection and certification	18
72	Construction and arrangement	35
76	Fire protection equipment	61
77	Vessel control and miscellaneous systems and equipment	88
78	Operations	94
80	Disclosure of safety standards and country of registry	111
81–89	[Reserved]	
	Index	115

SUBCHAPTER H—PASSENGER VESSELS

PART 70—GENERAL PROVISIONS

Subpart 70.01—Authority and Purpose

Sec.
70.01–1 Purpose of regulations.
70.01–7 Right of appeal.
70.01–15 OMB control numbers assigned pursuant to the Paperwork Reduction Act.

Subpart 70.05—Application

70.05–1 United States flag vessels subject to the requirements of this subchapter.
70.05–3 Foreign vessels subject to the requirements of this subchapter.
70.05–5 Specific application noted in text.
70.05–7 Ocean or unlimited coastwise vessels on inland and Great Lakes Routes.
70.05–10 Application to vessels on an international voyage.
70.05–18 Applicability to vessels operating under an exemption afforded in the Passenger Vessel Safety Act of 1993 (PSVA).
70.05–20 Gross tonnage as a criterion for requirements.
70.05–30 Combustible and flammable liquid cargo in bulk.

Subpart 70.10—Definition of Terms Used in This Subchapter

70.10–1 Definitions.

Subpart 70.15—Equivalents

70.15–1 Conditions under which equivalents may be used.

Subpart 70.20—General Marine Engineering Requirements

70.20–1 Marine engineering details.

Subpart 70.25—General Electrical Engineering Requirements

70.25–1 Electrical engineering details.

Subpart 70.28—Lifesaving Appliances and Arrangements

70.28–1 Lifesaving appliances and arrangements.

Subpart 70.35—American Bureau of Shipping's Standards

70.35–1 Standards to be used.
70.35–5 Where obtainable.

AUTHORITY: 46 U.S.C. 3306, 3703; Pub. L 103–206, 107 Stat. 2439; 49 U.S.C. 5103, 5106; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.45, 1.46; Section 70.01–15 also issued under the authority of 44 U.S.C. 3507.

SOURCE: CGFR 65–50, 30 FR 16890, Dec. 30, 1965, unless otherwise noted.

Subpart 70.01—Authority and Purpose

§ 70.01–1 Purpose of regulations.

The purpose of the regulations in this subchapter is to set forth uniform minimum requirements for passenger vessels. The regulations are necessary to carry out the provisions of law affecting passenger vessels and such regulations have the force of law.

[CGFR 65–50, 30 FR 16890, Dec. 30, 1965, as amended by CGD 95–028, 62 FR 51203, Sept. 30, 1997]

§ 70.01–7 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 subpart 1.03 of this chapter.

[54 FR 50380, Dec. 6, 1989]

§ 70.01–15 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.
§ 71.10	2115–0136
§ 71.50–5	2115–0554
§ 78.17–22	2115–0589
§ 78.17–33	2115–0589

[49 FR 38120, Sept. 27, 1984, as amended by CGD 88–072, 53 FR 34297, Sept. 6, 1988; CGD 89–037, 57 FR 41822, Sept. 11, 1992]

Subpart 70.05—Application

§ 70.05–1 United States flag vessels subject to the requirements of this subchapter.

(a) This subchapter is applicable to all U.S.-flag vessels indicated in Column 3 of table 70.05–1(a) that are 100 gross tons or more, except as follows:

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

(2) Any vessel while laid up and dismantled and out of commission; or,

(3) With the exception of vessels of the U.S. Maritime Administration, any vessel with title vested in the United States and which is used for public purposes.

Table 70.05-1(a)

Method of propulsion, qualified by size or other limitation.[1]		Vessels inspected and certificated under--			Vessels subject to the provisions of--		
		Subchapter D--Tank Vessels.[2]	**Subchapter H--Passenger Vessels[2, 3, 4, and 5] or Subchapter K or T--Small Passenger Vessels.[2, 3, and 4]**	**Subchapter I--Cargo and Miscellaneous Vessels.[2 and 5]**	**Subchapter C--Uninspected Vessels.[2, 3, 6, 7, and 8]**	**Subchapter U—Oceanographic Vessels.[2, 3, 6, 7, and 9]**	**Subchapter O--Certain Bulk and Dangerous Cargoes.[10]**
Column 1		Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
(1)	Motor, all vessels except seagoing motor vessels ≥ 300 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	i) All vessels carrying more than 12 passengers on an international voyage, except recreational vessels not engaged in trade.[7] ii) All vessels < 100 gross tons that-- A) Carry more than 6 passengers-for-hire whether chartered or not, or B) Carry more than 6 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and is a submersible vessel.[7] iii) All vessels ≥ 100 gross tons that-- A) Carry more than 12 passengers-for-hire whether chartered or not, or B) Carry more than 12 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and is a submersible vessel.[7] iv) These regulations do not apply to-- A) Recreational vessels not engaged in trade. B) Documented cargo or tank vessels issued a permit to carry 16 or fewer persons in addition to the crew. C) Fishing vessels, not engaged in ocean or coastwise service, may carry persons on the legitimate business of the vessel[5] in addition to the crew, as restricted by the definition of passenger.[7]	All vessels > 15 gross tons carrying freight-for-hire, except those covered by columns 2 and 3, and all vessels when carrying dangerous cargoes when required by 46 CFR part 98.	All vessels not covered by columns 2, 3, 4, and 6.	None.	All vessels carrying cargoes in bulk that are listed in part 153, table 1, or part 154, table 4, or unlisted cargoes that would otherwise be subject to these parts.[12]

Table 70.05-1(a) (continued)

Method of propulsion, qualified by size or other limitation.[1]		Vessels inspected and certificated under--			Vessels subject to the provisions of--		
		Subchapter D--Tank Vessels.[2]	Subchapter H--Passenger Vessels[2, 3, 4, and 5] or Subchapter K or T--Small Passenger Vessels.[2, 3, and 4]	Subchapter I--Cargo and Miscellaneous Vessels.[2 and 5]	Subchapter C--Uninspected Vessels.[2, 3, 6, 7, and 8]	Subchapter U—Oceanographic Vessels.[2, 3, 6, 7, and 9]	Subchapter O--Certain Bulk and Dangerous Cargoes.[10]
Column 1		Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
(2)	Motor, seagoing motor vessels ≥ 300 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	i) All vessels carrying more than 12 passengers on an international voyage, except recreational vessels not engaged in trade.[7] ii) These regulations do not apply to-- A) Recreational vessels not engaged in trade. B) Documented cargo or tank vessels issued a permit to carry 16 or fewer persons in addition to the crew. C) Fishing vessels, not engaged in ocean or coastwise service, may carry persons on the legitimate business of the vessel[5] in addition to the crew, as restricted by the definition of passenger.[7]	All vessels, including recreational vessels not engaged in trade. This does not include vessels covered by columns 2 and 3, and vessels engaged in the fishing industry.	All vessels not covered by columns 2, 3, 4, 6, and 7.	All vessels engaged in oceanographic research.	All vessels carrying cargoes in bulk that are listed in part 153, table 1, or part 154, table 4, or unlisted cargoes that would otherwise be subject to these parts.[12]
(3)	Non-self-propelled, vessels < 100 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	i) All vessels that-- A) Carry more than 6 passengers-for-hire whether chartered or not, or B) Carry more than 6 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and is a submersible vessel.[7] E) Carry more than 12 passengers on an international voyage.[7]	All seagoing barges except those covered by columns 2 and 3.	All barges carrying passengers or passengers-for-hire, except those covered by column 3.	None.	All tank barges carrying cargoes listed in Table 151.05 of this chapter or unlisted cargoes that would otherwise be subject to part 151.[1, 11, and 12]
(4)	Non-self-propelled, vessels ≥ 100 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	i) All vessels that-- A) Carry more than 12 passengers-for-hire whether chartered or not, or B) Carry more than 12 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and is a submersible vessel, or E) Carry more than 12 passengers on an international voyage.[7]	All seagoing barges except those covered by columns 2 and 3.	All barges carrying passengers or passengers-for-hire, except those covered by columns 3 and 6.	All seagoing barges engaged in oceanographic research.	All tank barges carrying cargoes listed in Table 151.05 of this chapter or unlisted cargoes that would otherwise be subject to part 151.[1, 11, and 12]

Table 70.05-1(a) (continued)

Method of propulsion, qualified by size or other limitation.[1]		Vesssels inspected and certificaqted under--			Vessels subject to the provisions of --		
		Subchapter D--Tank Vessels.[2]	Subchapter H--Passenger Vessels[2, 3, 4, and 5] or Subchapter K or T--Small Passenger Vessels.[2, 3, and 4]	Subchapter I--Cargo and Miscellaneous Vessels.[2 and 5]	Subchapter C--Uninspected Vessels.[2, 3, 6, 7, and 8]	Subchapter U—Oceanographic Vessels.[2, 3, 6, 7, and 9]	Subchapter O--Certain Bulk and Dangerous Cargoes.[10]
Column 1		Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
(5)	Sail,[13] vessels ≤ 700 gross tons	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	i) All vessels carrying more than 12 passengers on an international voyage, except recreational vessels not engaged in trade.[7] ii) All vessels < 100 gross tons that-- A) Carry more than 6 passengers-for-hire whether chartered or not, or B) Carry more than 6 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and is a submersible vessel.[7] iii) All vessels ≥ 100 gross tons that-- A) Carry more than 12 passengers-for-hire whether chartered or not, or B) Carry more than 12 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and is a submersible vessel.[7] iv) These regulations do not apply to-- A) Recreational vessels not engaged in trade. B) Documented cargo or tank vessels issued a permit to carry 16 or fewer persons in addition to the crew. C) Fishing vessels, not engaged in ocean or coastwise service, may carry persons on the legitimate business of the vessel[6] in addition to the crew, as restricted by the definition of passenger.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR part 98.	All vessels not covered by columns 2, 3, 4, and 6.	None.	All vessels carrying cargoes in bulk that are listed in part 153, table 1, or part 154, table 4, or unlisted cargoes that would otherwise be subject to these parts.[12]
(6)	Sail,[13] vessels >700 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	i) All vessels carrying passengers or passengers-for-hire, except recreational vessels.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR part 98.	None.	None.	All vessels carrying cargoes in bulk that are listed in part 153, table 1, or part 154, table 4, or unlisted cargoes that would otherwise be subject to these parts.[12]

Table 70.05-1(a) (continued)

Method of propulsion, qualified by size or other limitation.[1]		Vessels inspected and certificated under--			Vessels subject to the provisions of--		
		Subchapter D--Tank Vessels.[2]	Subchapter H--Passenger Vessels[2, 3, 4, and 5] or Subchapter K or T--Small Passenger Vessels.[2, 3, and 4]	Subchapter I--Cargo and Miscellaneous Vessels.[2 and 5]	Subchapter C--Uninspected Vessels.[2, 3, 6, 7, and 8]	Subchapter U—Oceanographic Vessels.[2, 3, 6, 7, and 9]	Subchapter O--Certain Bulk and Dangerous Cargoes.[10]
Column 1		Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
(7)	Steam, vessels ≤ 19.8 meters (65 feet) in length.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	i) All vessels carrying more than 12 passengers on an international voyage, except recreational vessels not engaged in trade.[7] ii) All vessels < 100 gross tons that-- A) Carry more than 6 passengers-for-hire whether chartered or not, or B) Carry more than 6 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and are submersible vessels.[7] iii) All vessels ≥ 100 gross tons that-- A) Carry more than 12 passengers-for-hire whether chartered or not, or B) Carry more than 12 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and are submersible vessels.[7] iv) These regulations do not apply to-- A) Recreational vessels not engaged in trade. B) Documented cargo or tank vessels issued a permit to carry 16 or fewer persons in addition to the crew. C) Fishing vessels, not engaged in ocean or coastwise service, may carry persons on the legitimate business of the vessel[5] in addition to the crew, as restricted by the definition of passenger.[7]	All tugboats and towboats. All vessels carrying dangerous cargoes when required by 46 CFR Part 98.	All vessels not covered by columns 2, 3, 4, and 6.	None.	All vessels carrying cargoes in bulk that are listed in part 153, table 1, or part 154, table 4, or unlisted cargoes that would otherwise be subject to these parts.[12]

Table 70.05-1(a) (continued)

Method of propulsion, qualified by size or other limitation.[1]		Vessels inspected and certificated under--			Vessels subject to the provisions of--		
		Subchapter D--Tank Vessels.[2]	Subchapter H--Passenger Vessels[2, 3, 4, and 5] or Subchapter K or T--Small Passenger Vessels.[2, 3, and 4]	Subchapter I--Cargo and Miscellaneous Vessels.[2 and 5]	Subchapter C--Uninspected Vessels.[2, 3, 6, 7, and 8]	Subchapter U—Oceanographic Vessels.[2, 3, 6, 7, and 9]	Subchapter O--Certain Bulk and Dangerous Cargoes.[10]
Column 1		Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
(8)	Steam, vessels > 19.8 meters (65 feet) in length.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	i) All vessels carrying more than 12 passengers on an international voyage, except recreational vessels not engaged in trade.[7] ii) All vessels < 100 gross tons that-- A) Carry more than 6 passengers-for-hire whether chartered or not, or B) Carry more than 6 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and is a submersible vessel.[7] iii) All vessels ≥ 100 gross tons that-- A) Carry more than 12 passengers-for-hire whether chartered or not, or B) Carry more than 12 passengers when chartered with the crew provided, or C) Carry more than 12 passengers when chartered with no crew provided, or D) Carry at least 1 passenger-for-hire and is a submersible vessel.[7] iv) These regulations do not apply to: A) Recreational vessels not engaged in trade. B) Documented cargo or tank vessels issued a permit to carry 16 or fewer persons in addition to the crew. C) Fishing vessels, not engaged in ocean or coastwise service, may carry persons on the legitimate business of the vessel[5] in addition to the crew, as restricted by the definition of passenger.[7]	All vessels not covered by columns 2, 3, 6, and 7.	None.	All vessels engaged in oceanographic research.	All vessels carrying cargoes in bulk that are listed in part 153, table 1, or part 154, table 4, or unlisted cargoes that would otherwise be subject to these parts.[12]

Key to symbols used in this table: ≤ is less than or equal to, > is greater than, < is less than, and ≥ is greater than or equal to.

Footnotes:

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), N (Dangerous Cargoes), S (Subdivision and Stability), and W (Lifesaving Appliances and Arrangements) of this chapter may also be applicable under certain conditions. The provisions of 49 CFR parts 171-179 apply whenever packaged 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, must 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, must 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, and subchapter K (Small Passenger Vessels) of this chapter covers only those vessels less than 100 gross tons carrying more than 150 passengers or overnight accommodations for more than 49 passengers.

5 Vessels covered by subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter, where the principal purpose or use of the vessel 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 must 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 (SOLAS).

7 The terms "passenger(s)" and "passenger(s)-for-hire" are as defined in 46 U.S.C. 2101(21)(21a). On oceanographic vessels, scientific personnel onboard shall not be deemed to be passengers nor seamen, but for calculations of lifesaving equipment, etc., must be counted as persons.

8 Boilers and machinery are subject to examination on vessels over 40 feet in length.

9 Under 46 U.S.C. 441 and oceanographic research vessel "* * * being employed exclusively in instruction in oceanography or linmology, 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 1 of part 153, and in table 4 of part 154 of this chapter.

11 For manned tank barges, see § 151.01-10(c) of this chapter.

12. See § 151.01-15, 153.900(d), or 154.30 of this chapter as appropriate.

13. Sail vessel means a vessel with no auxiliary machinery on board. If the vessel has auxiliary machinery, refer to motor vessels.

(b) The requirements for notification of safety standards and for safety information and country of registry in promotional literature or advertising of a domestic passenger vessel of 100 gross tons or over having berth or stateroom accommodations for 50 or more passengers are contained in part 80 of this chapter.

[CGFR 65–50, 30 FR 16890, Dec. 30, 1965, as amended by CGFR 67–83, 33 FR 1107, Jan. 27, 1968; CGFR 70–10, 35 FR 3710, Feb. 25, 1970; CGD 72–187R, 38 FR 9081, Apr. 10, 1973; CGP 73–96, 42 FR 49024, Sept. 26, 1977; CGD 86–033, 53 FR 36024, Sept. 16, 1988; 53 FR 46871, Nov. 21, 1988; CGD 90–008, 55 FR 30660, July 26, 1990; USCG–1999–5040, 67 FR 34784, May 15, 2002]

§ 70.05–3 Foreign vessels subject to the requirements of this subchapter.

(a) Except as specifically noted in paragraphs (b) and (e), and (f) of this section, parts 70 to 78, inclusive, of 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 70.05–1(a) that are 100 gross tons or over:

(1) Foreign vessels which carry more than 12 passengers from any port in the United States; or,

(2) Foreign vessels, other than those mentioned in paragraph (a)(1) of this section, which carry more than 6 passengers from any port in the United States, and which are:

(i) Sailing vessels of 100 gross tons or over and not more than 700 gross tons; or,

(ii) Non-self-propelled vessels of 100 gross tons.

(b) The provisions of parts 70 to 78, inclusive, of this subchapter shall not be applicable to those foreign vessels covered by paragraph (a) of this section which are:

(1) Any vessel of a foreign nation signatory to the International Convention for Safety of Life at Sea, 1974, and which has on board a current valid safety certificate; or,

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

(c) Notwithstanding the exceptions previously noted in paragraph (b) of this section, foreign vessels of novel design or construction, or whose operation involves potential unusual risks shall be subject to inspection to the extent necessary to safeguard life and property in United States' ports, as further provided by § 2.01–13 of subchapter A (Procedures Applicable to the Public) of this chapter.

(d) The requirements for notification of safety standards and for safety information and country of registry in promotional literature or advertising of a foreign passenger vessel of 100 gross tons or over having berth or stateroom accommodations for 50 or more passengers are contained in part 80 of this chapter.

(e) Not withstanding the other provisions of this section, foreign passenger vessels of over 100 gross tons having berth or stateroom accommodations for more than 50 persons and departing a United States port with passengers who are United States nationals and who embarked at that port shall comply with the provisions of the International Convention for Safety of Life at Sea, 1974.

(f) Notwithstanding the exceptions noted in paragraph (b) of this section, each foreign vessel must report marine casualties occurring while the vessel is in the navigable waters of the United States as required by subpart 78.07.

[CGFR 65–50, 30 FR 16890, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15280, Dec. 6, 1966; CGFR 68–65, 33 FR 19985, Dec. 28, 1968; CGFR 69–106a, 35 FR 16834, Oct. 31, 1970; CGD 72–187R, 38 FR 9081, Apr. 10, 1973; CGD 77–042, 42 FR 63643, Dec. 19, 1977; CGD 90–008, 55 FR 3066O, July 26, 1990]

§ 70.05–5 Specific application noted in text.

(a) 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, or 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. As used in

this subchapter, the term *vessels contracted for* includes not only the contracting for the construction of a vessel, but also the contracting for a material alteration to a vessel, the contracting for the conversion of a vessel to a passenger vessel, and the 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.

(b) [Reserved]

§ 70.05–7 Ocean or unlimited coastwise vessels on inland and Great Lakes Routes.

(a) Vessels inspected and certificated for ocean or unlimited coastwise routes shall be considered suitable for navigation insofar as the provisions of this subchapter are concerned on any inland route, including the Great Lakes.

(b) [Reserved]

§ 70.05–10 Application to vessels on an international voyage.

(a) Except as provided in paragraphs (b), (c), and (d) of this section, the regulations in this subchapter that apply to a vessel on an ''international voyage'' apply to a vessel that—

(1) Is mechanically propelled and carries more than 12 passengers; and

(2) Is engaged on a voyage—

(i) From a country to which the International Convention for Safety of Life at Sea, 1974, (SOLAS 74) applies, to a port outside that country or the reverse;

(ii) From any territory, including the Commonwealth of Puerto Rico, all possessions of the United States and all lands held by the United States under a protectorate or mandate, whose international relations are the responsibility of a contracting SOLAS 74 government, or which is administered by the United Nations, to a port outside that territory or the reverse; or

(iii) Between the contiguous states of the United States and the states of Hawaii or Alaska or between the states of Hawaii and Alaska.

(b) The regulations that apply to a vessel on an ''international voyage'' in this subchapter do not apply to ships engaged on a voyage solely on the Great Lakes and the St. Lawrence River as far east as a straight line drawn from Cap des Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63rd Meridian;

(c) The Commandant or his authorized representative may exempt any vessel on an international voyage from the requirements of this subchapter if the vessel—

(1) Makes a single international voyage in exceptional circumstances; and

(2) Meets safety requirements prescribed for the voyage by the Commandant.

(d) The Commandant or his authorized representative may exempt any vessel from the construction requirements of this subchapter if the vessel does not proceed more than 20 nautical miles from the nearest land in the course of its voyage.

[CGD 72–131R, 38 FR 29320, Oct. 24, 1973, as amended by CGD 90–008, 55 FR 30661, July 26, 1990; CGD 84–069, 61 FR 25287, May 20, 1996]

§ 70.05–18 Applicability to vessels operating under an exemption afforded in the Passenger Vessel Safety Act of 1993 (PVSA).

(a) The Passenger Vessel Safety Act of 1993 (PVSA) contained an allowance for the exemption of certain passenger vessels that are—

(1) At least 100 gross tons but less than 300 gross tons; or

(2) Former public vessels of at least 100 gross tons but less than 500 gross tons.

(b) The owner or operator of a vessel must have applied for an exemption under the PVSA by June 21, 1994, and then brought the vessel into compliance with the interim guidance in Navigation and Inspection Circular (NVIC) 7–94 not later than December 21, 1996. The PVSA exemption is valid for the service life of the vessel, as long as the vessel remains certified for passenger service. If the Certificate of Inspection (COI) is surrendered or otherwise becomes invalid (not including a term while the vessel is out of service but undergoing an inspection for recertification), the owner or operator must meet the appropriate inspection regulations to obtain a new COI without the PVSA exemption. See 46 CFR 175.118 for information about applicable

regulations for vessels that operate under the PVSA exemption.

[USCG–1999–5040, 67 FR 34791, May 15, 2002]

§ 70.05–20 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 vessel 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.

§ 70.05–30 Combustible and flammable liquid cargo in bulk.

NOTE: Requirements for double hull construction for vessels carrying oil, as defined in 33 CFR 157.03, in bulk as cargo are found in 33 CFR 157.10d.

Vessels inspected and certificated under this subchapter may carry limited quantities of combustible liquid cargo in bulk in the grades indicated, provided the certificate of inspection is endorsed to permit such carriage:

(a) Grade E in an integral tank; and

(b) Grade E in a portable tank, including a marine portable tank, in accordance with subpart 98.30 or 98.33 of this chapter.

[CGD 84–043, 55 FR 37410, Sept. 11, 1990, as amended by CGD 90–051, 57 FR 36246, Aug. 12, 1992]

Subpart 70.10—Definition of Terms Used in This Subchapter

§ 70.10–1 Definitions.

Approved means approved by the Commandant, unless otherwise stated.

Barge means any non-self-propelled vessel.

Carrying freight for hire means the carriage of any goods, wares, or merchandise, or any other freight for a consideration, whether directly or indirectly flowing to the owner, charterer, operator, agent, or any other person interested in the vessel.

Classed vessel means any vessel classed by the American Bureau of Shipping or other recognized classification society.

Coast Guard District Commander means an officer of the Coast Guard designated as such by the Commandant to command all Coast Guard activities within his or her district, which include the inspection, enforcement, and administration of Subtitle II, Title 46 U.S. Code; Title 33 U.S. Code; and regulations issued under these statutes.

Coastwise is a designation of service that includes all vessels normally navigating the waters of any ocean or the Gulf of Mexico 20 nautical miles or less offshore.

Commandant means the Commandant of the United States Coast Guard.

Consideration means an economic benefit, inducement, right, or profit including pecuniary payment accruing to an individual, person, or entity but not including a voluntary sharing of the

actual expenses of the voyage by monetary contribution or donation of fuel, food, beverage, or other supplies.

Ferry is a designation that includes 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.

Great Lakes is a designation of service that includes all vessels navigating the Great Lakes.

Headquarters means the Office of the Commandant, United States Coast Guard, Washington, DC 20593.

Lakes, bays, and sounds is a designation of service that includes all vessels navigating the waters of the lakes, bays, or sounds other than the waters of the Great Lakes.

Marine inspector or *inspector* means any person from the civilian or military branch of the Coast Guard assigned under the direction of an Officer in Charge, Marine Inspection, or any other person designated to perform duties related to the inspection, enforcement, and administration of Subtitle II, Title 46 U.S. Code; Title 33 U.S. Code; and regulations issued under these statutes.

Motor vessel means any vessel more than 65 feet in length, which is propelled by machinery other than steam.

Ocean is a designation of service that includes all vessels navigating the waters of any ocean or the Gulf of Mexico more than 20-nautical miles offshore.

Officer in Charge, Marine Inspection means any person from the civilian or military branch of the Coast Guard designated as such by the Commandant and who, under the direction of the Coast Guard District Commander, is in charge of an inspection zone for the performance of duties related to the inspection, enforcement, and administration of Subtitle II, Title 46 U.S. Code; Title 33 U.S. Code; and regulations issued under these statutes.

Passenger means—

(1) On an international voyage, every person other than—

(i) The master and the members of the crew or other persons employed or engaged in any capacity onboard a vessel on the business of that vessel; and

(ii) A child under the age of one.

(2) On other than an international voyage, an individual carried on the vessel, except—

(i) The owner or an individual representative of the owner or, in the case of a vessel under charter, an individual charterer or individual representative of the charterer;

(ii) The master; or

(iii) A member of the crew engaged in the business of the vessel, who has not contributed consideration for carriage, and who is paid for onboard services.

Passenger-for-hire means a passenger for whom consideration is contributed as a condition of carriage on the vessel, whether directly or indirectly flowing to the owner, charterer, operator, agent, or any other person having an interest in the vessel.

Passenger vessel means—

(1) On an international voyage, a vessel of at least 100 tons gross tonnage carrying more than 12 passengers; and

(2) On other than an international voyage, a vessel of at least 100 tons gross tonnage—

(i) Carrying more than 12 passengers, including at least one passenger-for-hire;

(ii) That is chartered and carrying more than 12 passengers; or

(iii) That is a submersible vessel and carrying at least one passenger-for-hire.

Pilot boarding equipment means a pilot ladder, accommodation ladder, pilot hoist, or combination of them, as required by this subchapter.

Point of access means the place on the deck of a vessel where a person steps onto or off pilot boarding equipment.

Recognized classification society means the American Bureau of Shipping or other classification society as recognized by the Commandant.

Rivers is a designation of service that includes all vessels whose navigation is restricted to rivers and/or canals, and to such other waters as may be designated by the Coast Guard District Commander.

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

Short international voyage means an international voyage in the course of which a vessel is not more than 200 miles from a port or place in which the passengers and crew could be placed in safety. Neither the distance between the last port of call in the country in which the voyage begins and the final port of destination, nor the return voyage, may exceed 600 miles. The final port of destination is the last port of call in the scheduled voyage at which the vessel commences its return voyage to the country in which the voyage began.

Specially suitable for vehicles is a designation used for a space that is designed for the carriage of automobiles or other self-propelled vehicles with batteries connected and fuel tanks containing gasoline on vessels on ocean or unlimited coastwise voyages. Requirements for the design and protection of spaces specially suitable for vehicles appear in subparts 72.15, 76.15, 77.05, 78.45, 78.47, and 78.83 of parts 72, 76, 77, and 78 of this subchapter. In addition, preparation of automobiles prior to carriage, with the exception of disconnecting battery cables, must be in accordance with the applicable provision of 49 CFR 176.905.

Submersible vessel means a vessel that is capable of operating below the surface of the water.

Vessel, unless otherwise noted in this subpart, includes all vessels indicated in column three of table 70.05–1(a) in § 70.05–1 that exceed 65 feet in length (measured from end-to-end over the deck, excluding sheer) and that carry more than six passengers-for-hire.

[USCG–1999–5040, 67 FR 34792, May 15, 2002]

Subpart 70.15—Equivalents

§ 70.15–1 Conditions under which equivalents may be used.

(a) Where in this subchapter it is provided that a particular fitting, material, appliance, apparatus, or equipment, or type thereof, shall be fitted or carried in a vessel, or that any particular provision shall be made or arrangement shall be adopted, the Commandant may accept in substitution therefor any other fitting, material, apparatus, or equipment, or type thereof, or any other provision or arrangement: *Provided*, That he shall have been satisfied by suitable trials that the fitting, material, appliance, apparatus, or equipment, or type thereof, or the provision or 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 70.20—General Marine Engineering Requirements

§ 70.20–1 Marine engineering details.

All marine engineering details such as piping, valves, fittings, boilers, pressure vessels, etc., and their appurtenances installed on the vessel, shall be designed, constructed, and installed in accordance with the provisions of subchapter F (Marine Engineering) of this chapter.

Subpart 70.25—General Electrical Engineering Requirements

§ 70.25–1 Electrical engineering details.

All electrical engineering details and installations shall be designed and installed in accordance with subchapter J (Electrical Engineering) of this chapter.

Subpart 70.28—Lifesaving Appliances and Arrangements

§ 70.28–1 Lifesaving appliances and arrangements.

All lifesaving appliances and arrangements on passenger vessels must be in accordance with subchapter W (Lifesaving Appliances and Arrangements) of this chapter.

[CGD 84–069, 61 FR 25287, May 20, 1996]

Subpart 70.35—American Bureau of Shipping's Standards

§ 70.35–1 Standards to be used.

(a) Where in this subchapter an item, or method of construction, or testing is required to meet the standards established by the American Bureau of Shipping, the current standards in effect at the time of construction of the vessel, or otherwise as applicable, shall be used. The current standards of other recognized classification societies may also be accepted upon approval by the Commandant.

(b) [Reserved]

§ 70.35–5 Where obtainable.

(a) The standards established by the American Bureau of Shipping are usually published annually and may be purchased from the American Bureau of Shipping, ABS Plaza, 16855 Northchase Drive, Houston, TX 77060. These standards may be also examined at the office of the Commandant (M), U.S. Coast Guard, Washington, DC 20593–0001, or at the office of any Coast Guard District Commander or Officer in Charge, Marine Inspection.

(b) [Reserved]

[CGFR 65–50, 30 FR 16890, Dec. 30, 1965, as amended by CGFR 68–32, 33 FR 5715, Apr. 12, 1968; CGD 88–070, 53 FR 34534, Sep. 7, 1988; CGD 88–070, 53 FR 37570, Sept. 27, 1988, 53 FR 44011, Nov. 1, 1988; CGD 95-072, 60 FR 50463, Sept. 29, 1995; USCG–2000–7790, 65 FR 58461, Sept. 29, 2000]

PART 71—INSPECTION AND CERTIFICATION

Subpart 71.01—Certificate of Inspection

Sec.
71.01–1 When required.
71.01–5 Posting.
71.01–10 Period of validity.
71.01–15 Temporary certificate.
71.01–20 Expired certificate.

Subpart 71.05—Permit To Proceed to Another Port for Repair

71.05–1 When issued.
71.05–5 To whom issued.
71.05–10 Conditions of permit.
71.05–15 Posting.

Subpart 71.10—Permit To Engage in Excursions

71.10–1 When issued.
71.10–5 To whom issued.
71.10–10 Conditions of permit.
71.10–15 Posting.

Subpart 71.15—Inspection of Vessels

71.15–1 Standards in inspection of hulls, boilers, and machinery.
71.15–5 Alternate compliance.

Subpart 71.20—Initial Inspection

71.20–1 Prerequisite of certificate of inspection.
71.20–5 When made.
71.20–10 Plans.
71.20–15 Scope of inspections.
71.20–20 Specific tests and inspections.

Subpart 71.25—Annual Inspection

71.25–1 Prerequisite of reissuance of certificate of inspection.
71.25–5 When made.
71.25–10 Scope of inspections.
71.25–15 Lifesaving equipment.
71.25–20 Fire-detecting and extinguishing equipment.
71.25–25 Hull equipment.
71.25–30 [Reserved]
71.25–35 Marine engineering equipment.
71.25–37 Pollution prevention.
71.25–40 Sanitary inspection.
71.25–45 Fire hazards.
71.25–50 Inspector not limited.

Subpart 71.30—Reinspection

71.30–1 When made.
71.30–5 Scope.
71.30–10 Inspector not limited.

Subpart 71.40—Inspection After Accident

71.40–1 General or partial survey.

Subpart 71.45—Sanitary Inspections

71.45–1 When made.

Subpart 71.50—Drydocking

71.50–1 Definitions relating to hull examinations.
71.50–3 Drydock examination, internal structural examination, underwater survey, and alternate hull exam intervals.
71.50–5 Underwater Survey in Lieu of Drydocking (UWILD).
71.50–15 Description of the Alternate Hull Examination (AHE) Program for certain passenger vessels.
71.50–17 Eligibility requirements for the Alternative Hull Examination (AHE) Program for certain passenger vessels.

71.50–19 The Alternative Hull Examination (AHE) Program application.
71.50–21 Preliminary examination requirements.
71.50–23 Pre-survey meeting.
71.50–25 Alternative Hull Examination (AHE) procedure.
71.50–27 Alternative Hull Examination (AHE) Program options: Divers or underwater remotely operated vehicle (ROV).
71.50–29 Hull examination reports.
71.50–31 Continued participation in the Alternative Hull Examination (AHE) Program.
71.50–35 Notice and plans required.

Subpart 71.53—Integral Fuel Oil Tank Examinations

71.53–1 When required.

Subpart 71.55—Repairs and Alterations

71.55–1 Permission required.
71.55–5 Inspection required.

Subpart 71.60—Special Operating Requirements

71.60–1 Inspection and testing required when making alterations, repairs, or other such operations involving riveting, welding, burning or like fire-producing actions.

Subpart 71.65—Plan Approval

71.65–1 General.
71.65–5 Plans and specifications required for new construction.
71.65–10 Plans required for alterations of existing vessels.
71.65–15 Procedure for submittal of plans.
71.65–20 Number of plans required.

Subpart 71.75—Certificates Under the International Convention for Safety of Life at Sea, 1960

71.75–1 Application.
71.75–5 Passenger Ship Safety Certificate.
71.75–10 Exemption Certificate.
71.75–13 Safety Management Certificate.
71.75–15 Posting of Convention certificates.
71.75–20 Duration of certificates.

AUTHORITY: 33 U.S.C. 1321(j); 46 U.S.C. 2113, 3205, 3306, 3307; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; E.O. 12777, 56 FR 54757, 3 CFR, 1991 Comp., p. 351; 49 CFR 1.46.

SOURCE: CGFR 65–50, 30 FR 16895, Dec. 30, 1965, unless otherwise noted.

Subpart 71.01—Certificate of Inspection

§ 71.01–1 When required.

(a) Except as noted in this subpart or subpart 71.05, no vessel subject to inspection and certification shall be operated without a valid certificate of inspection.

(b) [Reserved]

§ 71.01–5 Posting.

The certificate of inspection shall be displayed under glass in a conspicuous place where observation by the passengers is likely.

[CGD 72–104R, 37 FR 14233, July 18, 1972]

§ 71.01–10 Period of validity.

(a) Certificates of inspection will be issued for a period of 1 year. Application may be made by the master, owner, or agent for inspection and issuance of a new certificate of inspection at any time within the period of validity of the current certificate.

(b) Certificates of inspection may be revoked or suspended by the Coast Guard where such process is authorized by law. This may occur if the vessel does not meet the requirements of law or regulations in this chapter or if there is a failure to maintain the safety requirements requisite to the issuance of a certificate of inspection.

[CGFR 68–82, 33 FR 18899, Dec. 18, 1968, as amended by CGD 95–012, 60 FR 48051, Sept. 18, 1995; CGD 95–028, 62 FR 51203, Sept. 30, 1997]

§ 71.01–15 Temporary certificate.

(a) 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.

(b) [Reserved]

§ 71.01–20 Expired certificate.

(a) 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 subpart: *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.

(b) [Reserved]

Subpart 71.05—Permit To Proceed to Another Port for Repair

§ 71.05–1 When issued.

(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) [Reserved]

§ 71.05–5 To whom issued.

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

(b) [Reserved]

§ 71.05–10 Conditions of permit.

(a) 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 § 71.01–20.

(b) [Reserved]

§ 71.05–15 Posting.

(a) The permit shall be carried in a manner similar to that described in § 71.01–5 for a certificate of inspection.

(b) [Reserved]

Subpart 71.10—Permit To Engage in Excursions

§ 71.10–1 When issued.

(a) The Officer in Charge, Marine Inspection, may issue a permit to carry additional passengers on an excursion, Form CG-949, if after personally inspecting the vessel, it can, in his judgment, be done with safety.

(b) [Reserved]

§ 71.10–5 To whom issued.

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

(b) [Reserved]

§ 71.10–10 Conditions of permit.

(a) The permit will state upon its face the conditions under which it is issued, the number of extra passengers the vessel may carry, 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.

(b) [Reserved]

§ 71.10–15 Posting.

(a) The permit when used, shall be carried in addition to the certificate of inspection and shall be carried in a manner similar to that described in § 71.01–5 for a certificate of inspection.

(b) [Reserved]

Subpart 71.15—Inspection of Vessels

§ 71.15–1 Standards in inspection of hulls, boilers, and machinery.

In the inspection of hulls, boilers, and machinery of vessels, the standards established by the American Bureau of Shipping, see part 70, subpart 70.35 of this chapter respecting material and inspection of hulls, boilers, and machinery, and the certificate of classification referring thereto, except where otherwise provided for by the rules and regulations in this subchapter, subchapter E (Load Lines),

subchapter F (Marine Engineering), subchapter J (Electrical Engineering), and subchapter W (Lifesaving Appliances and Arrangements) of this chapter, shall be accepted as standard by the inspectors.

[CGD 84–069, 61 FR 25287, May 20, 1996]

§ 71.15–5 Alternate compliance.

(a) In place of compliance with other applicable provisions of this subchapter, the owner or operator of a vessel subject to plan review and inspection under this subchapter for initial issuance or renewal of a Certificate of Inspection may comply with the Alternate Compliance Program provisions of part 8 of this chapter.

(b) For the purposes of this section, a list of authorized classification societies, including information for ordering copies of approved classification society rules and supplements, is available from Commandant (G–MSE), 2100 Second St., SW., Washington, DC 20593–0001; telephone (202) 267–6925; or fax (202) 267–4816. Approved classification society rules and supplements are incorporated by reference into 46 CFR 8.110(b).

[CGD 95–010, 62 FR 67536, Dec. 24, 1997, as amended by USCG–1999–5004, 64 FR 30439, June 8, 1999]

Subpart 71.20—Initial Inspection

§ 71.20–1 Prerequisite of certificate of inspection.

(a) The initial inspection is a prerequisite of the issuance of the original certificate of inspection.

(b) [Reserved]

§ 71.20–5 When made.

(a) The original inspection will only be made upon the written application of the owner or builder of the vessel to the Officer in Charge, Marine Inspection, on Form CG-3752, application for inspection of U.S. vessel, at or nearest the port where the vessel is located.

(b) [Reserved]

§ 71.20–10 Plans.

(a) Before application for inspection is made and before construction is started, the owner or builder shall have plans indicating the proposed arrangement and construction of the vessel approved by the Commandant. The procedure for submitting plans and the list of plans to be supplied is set forth in subpart 71.65.

(b) [Reserved]

§ 71.20–15 Scope of inspections.

The initial inspection, which may consist of a series of inspections during the construction of a vessel, shall include a complete inspection of the structure, including the outside of the vessel's bottom, the machinery, unfired pressure vessels, equipment and the inside and outside of the boilers. The inspection shall be such as to insure that the arrangements, material, and scantlings of the structure, boilers and other pressure vessels and their appurtenances, piping, main and auxiliary machinery, electrical installations, lifesaving appliances, fire-detecting and extinguishing equipment, pilot boarding equipment, pollution prevention equipment and other equipment fully comply with the applicable regulations for such vessel and are in accordance with approved plans, and determine that the vessel is in possession of a valid certificate issued by the Federal Communications Commission, if any. The inspection shall be such as to ensure that the workmanship of all parts of the vessel and its equipment is in all respects satisfactory and that the vessel is provided with lights, means of making sound signals, and distress signals as required by applicable statutes and regulations.

[CGFR 68–32, 33 FR 5715, Apr. 12, 1968, as amended by CGD 82–036, 48 FR 654, Jan. 6, 1983; CGD 79–032, 49 FR 25455, June 21, 1984; CGD 95–012, 60 FR 48051, Sept. 18, 1995]

§ 71.20–20 Specific tests and inspections.

The applicable tests and inspections relating to annual inspection as set forth in subpart 71.25 shall be made at this time. In addition, the following specific tests and inspections shall be made by the inspector:

(a) For inspection procedures of lifesaving appliances and arrangements, see subchapter W (Lifesaving Appliances and Arrangements) of this chapter.

(b) Installation of carbon dioxide extinguishing piping, see § 76.15–15 of this subchapter.

(c) For inspection procedures of marine engineering equipment and systems, see subchapter F (Marine Engineering) of this chapter.

(d) For inspection procedures of electrical engineering equipment and systems, see subchapter J (Electrical Engineering) of this chapter.

(e) For inspection and testing standards of structural subdivision integrity, see § 72.01–25 of this subchapter.

(f) For inspection and testing of watertight doors, see § 170.270 of this chapter.

[CGFR 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 79–023, 48 FR 51007, Nov. 4, 1983; CGD 84–069, 61 FR 25287, May 20, 1996]

Subpart 71.25—Annual Inspection

§ 71.25–1 Prerequisite of reissuance of certificate of inspection.

(a) The annual inspection is a prerequisite of the reissuance of a certificate of inspection.

(b) [Reserved]

§ 71.25–5 When made.

(a) The annual inspection will be made only upon the written application of the master, owner, or agent of the vessel on Form CG–3752, Application for Inspection of U.S. Vessel, to the Officer in Charge, Marine Inspection, at or nearest the port where the vessel is to be inspected.

(b) You must submit your application for the annual inspection at least 30 days before your current certificate of inspection expires.

[CGFR 65–50, 30 FR 16895, Dec. 30, 1965, as amended by USCG–1999–4976, 65 FR 6501, Feb. 9, 2000]

§ 71.25–10 Scope of inspections.

The annual inspection shall include an inspection of the structure, boilers, and other pressure vessels, machinery and equipment. The inspection shall be such as to insure that the vessel, as regards the structure, boilers and other pressure vessels, and their appurtenances, piping, main and auxiliary machinery, electrical installations, life-saving appliances, fire-detecting and extinguishing equipment, pilot boarding equipment, and other equipment is in satisfactory condition and fit for the service for which it is intended, and that it complies with the applicable regulations for such vessels, and determine that the vessel is in possession of a valid certificate issued by the Federal Communications Commission, if required. The lights, means of making sound signals, and distress signals carried by the vessel shall also be subject to the above-mentioned inspection for the purpose of ensuring that they comply with the requirements of the applicable statutes and regulations.

[CGFR 68–32, 33 FR 5715, Apr. 12, 1968 as amended by CGD 82–036, 48 FR 655, Jan. 6, 1983; CGD 79–032, 49 FR 25455, June 21, 1984; CGD 95–012, 60 FR 48051, Sept. 18, 1995]

§ 71.25–15 Lifesaving equipment.

For inspection procedures of lifesaving appliances and arrangements, see subchapter W (Lifesaving Appliances and Arrangements) of this chapter.

[CGD 84–069, 61 FR 25287, May 20, 1996]

§ 71.25–20 Fire-detecting and extinguishing equipment.

(a) At each annual inspection, the inspector shall conduct the following tests and inspections of fire detecting and extinguishing equipment:

(1) All hand portable fire extinguishers and semiportable fire extinguishing systems shall be checked as noted in table 71.25–20(a)(1). In addition, the hand portable fire extinguishers and semiportable fire extinguishing systems shall be examined for excessive corrosion and general condition.

TABLE 71.25–20(a)(1)

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.

TABLE 71.25–20(a)(1)—Continued

Type unit	Test
Cartridge operated (water, antifreeze or loaded stream).	Examine pressure cartirdge 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 exceed 10 percent of weight of charge. Inspect hose and nozzle to be sure they are clear.[1]
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 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.
Vaporizing liquid[2] (pump type).	Pump a few strokes into clean pail and replace liquid. Keep water out of extinguisher or liquid. Keep extinguisher completely full of liquid.
Vaporizing liquid (stored pressure type).	See that pressure gage is in operating range. Weigh or check liquid level to determine that full charge of liquid is in extinguisher. Recharge if pressure is low or if liquid is needed.

[1] Cylinders must be tested and marked, and all flexible connections and discharge hoses of semi-portable carbon dioxide and halon extinguishers must be tested or renewed, as required by §§ 147.60 and 147.65 of this chapter.

[2] Vaporizing-liquid type fire extinguishers containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids shall be removed from all vessels. (See § 76.50–5(e) of this subchapter.)

(2) Fixed fire extinguishing systems shall be checked as noted in table 71.25–20(a)(2). In addition all parts of the fixed fire extinguishing systems shall be examined for excessive corrosion and general conditions.

TABLE 71.25–20(a)(2)

Type system	Test
Foam	Systems utilizing a soda solution shall have such solution replaced. In all cases, ascertain that powder is not caked.

TABLE 71.25–20(a)(2)—Continued

Type system	Test
Carbon dioxide	Weigh cylinders. Recharge if weight loss exceeds 10 percent of weight of charge.[1]

[1] Cylinders must be tested and marked, and all flexible connections on fixed carbon dioxide systems must be tested or renewed, as required by §§ 147.60 and 147.65 of this chapter.

(3) All fire detecting and extinguishing systems, all piping controls, valves, and alarms shall be checked to ascertain that the system is in operating condition. In this respect, automatic sprinkling systems shall be checked by means of test stations or opening heads, smoke detecting systems shall be checked by introducing smoke into the accumulators, fire detecting and manual alarm systems shall be checked by test stations or actuating detectors or pull boxes, and steam smothering lines shall be checked with at least a 50 p.s.i. air pressure with the ends capped or by blowing steam through the lines at the designed pressure.

(4) The fire main system shall be operated and the pressure checked at the most remote and highest outlets. All fire hose shall be subjected to a test pressure equivalent to the maximum pressure to which they may be subjected in service, but not less than 100 p.s.i.

(b) [Reserved]

[CGFR 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGFR 68–32, 33 FR 5716, Apr. 12, 1968; CGD 84–044, 53 FR 7748, Mar. 10, 1988]

§ 71.25–25 Hull equipment.

(a) At each annual inspection, the inspector shall conduct the following tests and inspections of hull equipment:

(1) All subdivision bulkheads shall be examined to determine that their watertight integrity has not been impaired.

(2) All watertight doors shall be operated locally by manual power and also by hydraulic or electric power if so fitted. Where remote control is fitted, the doors shall also be operated by the remote control apparatus.

(3) All magnetically controlled fire doors shall be operated locally and by the remote control, and all automatic

fire dampers shall be checked to determine that they are in an operable condition.

(4) The remote controls of all valves shall be operated.

(5) The owner, operator or master shall provide the Officer in Charge, Marine Inspection with all current valid certificates and registers of cargo gear issued by an organization recognized by the Commandant under § 31.10–16.

(b) Every acceptable cargo gear certificate and/or register shall be properly executed by a person authorized to do so and shall:

(1) Certify as to the tests and examinations conducted;

(2) Show the dates on which the tests and examinations were conducted; and,

(3) Indicate that the cargo gear described in the certificate or register complies with the standards of the organization or association authorized to issue the certificate or register.

(c) Competent persons for the purposes of this section are defined as—

(1) Surveyors of a classification society recognized by the Commandant under 46 U.S.C. 3316.

(2) Surveyors of a cargo gear organization recognized by the Commandant under § 31.10–16.

(3) Responsible officials or employees of the testing laboratories, companies, or organizations who conduct tests of pieces of loose cargo gear, wire rope, or the annealing of gear as may be required by the standards of the organization or association authorized to issue the certificate or register.

(d) The registers issued in connection with cargo gear certification must have all required entries fully completed as of the dates indicated, shall be kept current, and shall include the following:

(1) A register of the cargo handling machinery and the gear accessory thereto carried on the vessel named therein;

(2) Certification of the testing and examination of winches, derricks, and their accessory gear;

(3) Certification of the testing and examination of cranes, hoists, and their accessory gear;

(4) Certification of the testing and examination of chains, rings, hooks, shackles, swivels, and blocks;

(5) Certification of the testing and examination of wire rope;

(6) Certification of the heat treatment of chains, rings, hooks, shackles, and swivels which require such treatment; and,

(7) Certification of the annual thorough examinations of gear not required to be periodically heat treated.

[CGFR 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 95–028, 62 FR 51203, Sept. 30, 1997]

§ 71.25–30 [Reserved]

§ 71.25–35 Marine engineering equipment.

(a) For inspection procedures of marine engineering equipment and systems, see subchapter F. (Marine Engineering) of this chapter.

(b) [Reserved]

§ 71.25–37 Pollution prevention.

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.

[CGD 71–161R, 37 FR 28262, Dec. 21, 1972]

§ 71.25–40 Sanitary inspection.

(a) At each annual inspection the passenger and crew quarters, toilet and washing spaces, galleys, serving pantries, lockers, etc., shall be examined by the inspector to be assured that they are in a sanitary condition.

(b) [Reserved]

§ 71.25–45 Fire hazards.

(a) At each annual inspection, the inspector shall examine the tank tons and bilges in the machinery spaces to see that there is no accumulation of oil which might create a fire hazard.

(b) [Reserved]

§ 71.25–50 Inspector not limited.

(a) Nothing in this subpart shall be construed as limiting the inspector from making such tests or inspections as he deems necessary to be assured of the safety and seaworthiness of the vessel.

(b) [Reserved]

Subpart 71.30—Reinspection

§ 71.30–1 When made.

In general, at least three reinspections shall be made on each vessel within one year. These reinspections will be made at approximately equal intervals between annual inspections. In the case of vessels with a seasonal schedule, reinspections will be made during the operating season if practicable.

[CGFR 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 95–028, 62 FR 51203, Sept. 30, 1997]

§ 71.30–5 Scope.

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

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

§ 71.30–10 Inspector not limited.

(a) Nothing in this subpart shall be construed as limiting the inspector from making such tests or inspections as he deems necessary to be assured of the safety and seaworthiness of the vessel.

(b) [Reserved]

Subpart 71.40—Inspection After Accident

§ 71.40–1 General or partial survey.

(a) A survey, either general or partial, according to the circumstances, shall be made every time an accident occurs or a defect is discovered which affects the safety of the vessel or the efficacy or completeness of its lifesaving appliances, fire-fighting or other equipment, or whenever any important repairs or renewals are made. The survey shall be such as to insure that the necessary repairs or renewals have been effectively made, that the material and the workmanship of such repairs or renewals are in all respects satisfactory, and that the vessel complies in all respects with the regulations in this subchapter.

(b) [Reserved]

Subpart 71.45—Sanitary Inspections

§ 71.45–1 When made.

(a) An inspection of passenger and crew quarters, toilet and washing spaces, serving pantries, galleys, etc., shall be made, in general, at least once in every month. If the route of the vessel is such that it is away from a United States port for more than one month, an inspection shall be conducted at least once every trip.

(b) [Reserved]

Subpart 71.50—Drydocking

§ 71.50–1 Definitions relating to hull examinations.

As used in this part—

Adequate hull protection system means a method of protecting the vessel's hull from corrosion. It includes, as a minimum, either hull coatings and a cathodic protection (CP) system consisting of zinc anodes, or an impressed current CP system.

Alternative Hull Examination (AHE) Program means a program in which an eligible vessel may receive an initial and subsequent credit hull examination through a combination of underwater surveys, internal examinations, and annual hull condition assessment.

Drydock examination means hauling out a vessel or placing a vessel in a drydock or slipway for an examination of all accessible parts of the vessel's underwater body and all through-hull fittings and appurtenances.

Internal structural examination means an examination of the vessel while afloat or in drydock and consists of a complete examination of the vessel's main strength members, including the major internal framing, the hull plating, voids, and ballast tanks, but not including cargo, sewage, or fuel oil tanks.

Remotely operated vehicle (ROV) team, at a minimum, consist of an ROV operator, a non-destructive testing inspector, an ROV tender or mechanic, and a team supervisor who is considered by

the Officer in Charge, Marine Inspection (OCMI), to have the appropriate training and experience to perform the survey and to safely operate the ROV in an effective manor. The team must also have a hull-positioning technician present. This position may be assigned to a team member already responsible for another team duty.

Shallow water is an ascertained water depth at which the uppermost deck(s) of a sunken vessel remain above the water's surface. The determination of the water's depth is made by the Officer in Charge, Marine Inspection (OCMI) who considers the vessel's stability (passenger heeling moment), the contour of the hull, the composition of the river bottom, and any other factors that would tend to prevent a vessel from resting an even keel.

Third party examiner means an entity:

(1) With a thorough knowledge of diving operations, including diving limitations as related to diver safety and diver supervision;

(2) Having a familiarity with, but not limited to, the following—

(i) The camera used during the AHE; and

(ii) The NDT equipment used during the AHE, including the effect of water clarity, and marine growth in relation to the quality of the readings obtained;

(3) Having a familiarity with the communications equipment used during the AHE;

(4) Possessing the knowledge of vessel structures, design features, nomenclature, and the applicable AHE regulations; and

(5) Able to present the Officer in Charge, Marine Inspection, with evidence of formal training, demonstrated ability, past acceptance, or a combination of these.

Underwater Survey in Lieu of Drydocking (UWILD) means a program in which an eligible vessel may alternate between an underwater survey and the required drydock examinations.

[USCG–2000–6858, 67 FR 21076, Apr. 29, 2002]

§ 71.50–3 Drydock examination, internal structural examination, underwater survey, and alternate hull exam intervals.

(a) If your vessel is operated on international voyages, it must undergo a drydock and internal structural examination once every 12 months unless it has been approved to undergo an underwater survey per § 71.50–5 of this part.

(b) If your vessel is operated on other than international voyages and does not meet the conditions in paragraphs (c) through (f) of this section, it must undergo a drydock and internal structural examination as follows unless it has been approved to undergo an underwater survey per § 71.50–5 of this part:

(1) Except as provided in paragraph (b)(2) of this section, vessels that operate in salt water must undergo two drydock and two internal structural examinations within any five year period. No more than three years may elapse between any two examinations.

(2) Vessels 20 years of age or older that operate in salt water and accommodate overnight passengers must undergo drydock and internal structural examinations at intervals not to exceed 18 months.

(3) Vessels that operate in fresh water at least six months in every 12 month period since the last drydock examination must undergo drydock and internal structural examinations at intervals not to exceed five years.

(c) Vessels with wooden hulls must undergo two drydock and two internal structural examinations within any five year period regardless of the type of water in which they operate. No more than three years may elapse between any two examinations.

(d) If, during an internal structural examination, damage or deterioration to the hull plating or structural members is discovered, the Officer in Charge, Marine Inspection, may require the vessel to be drydocked or otherwise taken out of service to further assess the extent of the damage and to effect permanent repairs.

(e) Each vessel which has not met the applicable examination schedules in

paragraphs (a) through (d) of this section because it is on a voyage, must undergo the required examinations upon completion of the voyage.

(f) For a vessel that is eligible per § 71.50–17 and the owner opts for an alternate hull examination with the underwater survey portion conducted exclusively by divers, the vessel must undergo two alternate hull exams and two internal structural exams within any five-year period. If a vessel completes a satisfactory alternate hull exam, with the underwater survey portion conducted predominantly by an approved underwater ROV, the vessel must undergo one alternate hull and one internal structural exam, within any five-year period. The vessel may undergo a drydock exam to satisfy any of the required alternate hull exams.

(g) The Commandant (G–MOC) may authorize extensions to the examination intervals specified in paragraph (a) through (c) of this section.

[CGD 84–024, 52 FR 39652, Oct. 23, 1987, as amended by CGD 84–024, 53 FR 32231, Aug. 24, 1988; GCD 95–072, 60 FR 50463, Sept. 29, 1995; CGD 96-041, 61 FR 50729, Sept. 27, 1996; USCG–2000–6858, 67 FR 21076, Apr. 29, 2002]

§ 71.50–5 Underwater Survey in Lieu of Drydocking (UWILD).

(a) The Officer in Charge, Marine Inspection (OCMI), may approve an underwater survey instead of a drydock examination at alternating intervals if your vessel is—

(1) Less than 15 years of age;

(2) A steel or aluminum hulled vessel;

(3) Fitted with an effective hull protection system; and

(4) Described in § 71.50–3(a) or (b).

(b) For vessels less than 15 years of age, you must submit an application for an underwater survey to the OCMI at least 90 days before your vessel's next required drydock examination. The application must include—

(1) The procedure for carrying out the underwater survey;

(2) The time and place of the underwater survey;

(3) The method used to accurately determine the diver's or remotely operated vehicle's (ROV) location relative to the hull;

(4) The means for examining all through-hull fittings and appurtenances;

(5) The means for taking shaft bearing clearances;

(6) The condition of the vessel, including the anticipated draft of the vessel at the time of survey;

(7) A description of the hull protection system; and

(8) The name and qualifications of any third party examiner.

(c) If your vessel is 15 years old or older, the cognizant District Commander for the area in which the exam is being completed, may approve an underwater survey instead of a drydock examination at alternating intervals. You must submit an application for an underwater survey to the OCMI at least 90 days before your vessel's next required drydock examination. You may be allowed this option if—

(1) The vessel is qualified under paragraphs (a)(2) through (4) of this section;

(2) Your application includes the information in paragraphs (b)(1) through (b)(8) of this section; and

(3) During the vessel's drydock examination that precedes the underwater survey, a complete set of hull gaugings was taken and they indicated that the vessel was free from appreciable hull deterioration.

(d) After this drydock examination required in paragraph (c)(3) of this section, the OCMI submits a recommendation for future underwater surveys, the results of the hull gauging, and the results of the Coast Guards' drydock examination results to the cognizant District Commander for review.

[USCG–2000–6858, 67 FR 21077, Apr. 29, 2002]

§ 71.50–15 Description of the Alternate Hull Examination (AHE) Program for certain passenger vessels.

The Alternative Hull Examination (AHE) Program provides you with an alternative to drydock examination by allowing your vessel's hull to be examined while it remains afloat. If completed using only divers, this program has four steps: the application process, the preliminary examination, the pre-survey meeting, and the hull examination. If a remotely operated vehicle (ROV) is used during the program the preliminary exam step may be omitted.

Once you complete these steps, the Officer in Charge, Marine Inspection (OCMI), will evaluate the results and accept the examination as a credit hull exam if the vessel is in satisfactory condition. If divers are exclusively used for the underwater survey portion of the examination process, you may receive credit for a period of time such that subsequent AHEs would be conducted at intervals of twice in every five years, with no more than three years between any two AHEs. If an underwater ROV is used as the predominant method to examine the vessel's underwater hull plating, you may receive credit up to five years. At the end of this period, you may apply for further participation under the AHE Program.

NOTE TO § 71.50–15: The expected hull coverage when using an ROV must be at least 80 percent.

[USCG–2000–6858, 67 FR 21077, Apr. 29, 2002]

§ 71.50–17 Eligibility requirements for the Alternative Hull Examination (AHE) Program for certain passenger vessels.

(a) Your vessel may be eligible for the AHE Program if—

(1) It is constructed of steel or aluminum;

(2) It has an effective hull protection system;

(3) It has operated exclusively in fresh water since its last drydock examination;

(4) It operates in a reduced risk environment such as a river or the protected waters of a lake; and

(5) It operates exclusively in shallow water or within 0.5 nautical miles from shore.

(b) In addition to the requirements in paragraph (a), the Officer in Charge, Marine Inspection (OCMI), will evaluate the following information when determining your vessel's eligibility for the AHE Program:

(1) The overall condition of the vessel, based on its inspection history;

(2) The vessel's history of hull casualties and hull-related deficiencies; and

(3) The AHE Program application, as described in § 71.50–19 of this part.

(c) When reviewing a vessel's eligibility for the AHE program, the OCMI may modify the standards given by paragraph (a)(5) of this section where it is considered safe and reasonable to do so. In making this determination, the OCMI will consider the vessel's overall condition, its history of safe operation, and any other factors that serve to mitigate overall safety risks.

[USCG–2000–6858, 67 FR 21077, Apr. 29, 2002]

§ 71.50–19 The Alternative Hull Examination (AHE) Program application.

If your vessel meets the eligibility criteria in § 71.50–17 of this part, you may apply to the AHE Program. You must submit an application at least 90 days before the requested hull examination date to the Officer in Charge, Marine Inspection (OCMI), who will oversee the hull examination. The application must include—

(a) The proposed time and place for conducting the hull examination;

(b) The name of the participating diving contractor and underwater remotely operated vehicle (ROV) company accepted by the OCMI under § 71.50–27 of this part;

(c) The name and qualifications of the third party examiner. This person must be familiar with the inspection procedures and his or her responsibilities under this program. The OCMI has the discretionary authority to accept or deny use of any third party examiner using the criteria established in § 71.50–1 of this part;

(d) A signed statement from your vessel's master, chief engineer, or the person in charge stating the vessel meets the eligibility criteria of § 71.50–17 of this part and a description of the vessel's overall condition, level of maintenance, known or suspected damage, underwater body cleanliness, and the anticipated draft of the vessel at the time of the examination;

(e) Plans or drawings that illustrate the external details of the hull below the sheer strake;

(f) A detailed plan for conducting the hull examination in accordance with §§ 71.50–25 and 71.50–27 of this part, which must address all safety concerns related to the removal of sea valves during the inspection; and

(g) A preventative maintenance plan for your vessel's hull, its related systems and equipment.

[USCG–2000–6858, 67 FR 21077, Apr. 29, 2002]

§ 71.50–21 Preliminary examination requirements.

(a) If you exclusively use divers to examine the underwater hull plating, you must arrange to have a preliminary examination conducted by a third party examiner, with the assistance of qualified divers. The purpose of the preliminary examination is to assess the overall condition of the vessel's hull and identify any specific concerns to be addressed during the underwater hull examination.

(b) The preliminary examination is required only upon the vessel's entry or reentry into the AHE program.

(c) If you use an underwater ROV as the predominant means to examine your vessel's hull plating, a preliminary examination and the participation of a third party examiner will not be necessary.

[USCG–2000–6858, 67 FR 21078, Apr. 29, 2002]

§ 71.50–23 Pre-survey meeting.

(a) In advance of each AHE, you must conduct a pre-survey meeting to discuss the details of the AHE procedure with the Officer in Charge, Marine Inspection (OCMI). If you exclusively use divers to examine the underwater hull plating, the third party examiner must attend the meeting and you must present the results of the preliminary examination. If you use an underwater remotely operated vehicle (ROV) as the predominant means to examine the vessel's hull plating, then the pre-survey meeting must be attended by a representative of the ROV operating company who is qualified to discuss the ROV's capabilities and limitations of your vessel's hull design and configuration.

(b) A vessel owner, operator, or designated agent must request this meeting in writing at least 30 days in advance of the examination date.

[USCG–2000–6858, 67 FR 21078, Apr. 29, 2002]

§ 71.50–25 Alternative Hull Examination (AHE) procedure.

(a) To complete the underwater survey you must—

(1) Perform a general examination of the underwater hull plating and a detailed examination of all hull welds, propellers, tailshafts, rudders, and other hull appurtenances;

(2) Examine all sea chests;

(3) Remove and inspect all sea valves in the presence of a marine inspector;

(4) Remove all passengers from the vessel when the sea valves are being examined, if required by the Officer in Charge, Marine Inspection (OCMI);

(5) Allow access to all internal areas of the hull for examination, except internal tanks that carry fuel, sewage, or potable water. Internal tanks that carry fuel must be examined in accordance with § 71.53–1 of this part. Internal sewage and potable water tanks may be examined visually or by non-destructive testing to the satisfaction of the attending marine inspector; and

(6) Meet the requirements in § 71.50–27 of this part.

(b) A marine inspector may examine any other areas deemed necessary by the OCMI.

(c) If the AHE reveals significant deterioration or damage to the vessel's hull plating or structural members, the OCMI must be immediately notified. The OCMI may require the vessel be drydocked or otherwise taken out of service to further assess the extent of damage or to effect permanent repairs if the assessment or repairs cannot be completed to the satisfaction of the OCMI while the vessel is waterborne.

[USCG–2000–6858, 67 FR 21078, Apr. 29, 2002]

§ 71.50–27 Alternative Hull Examination (AHE) program options: Divers or underwater remotely operated vehicle (ROV).

To conduct the underwater survey portion of the AHE, you may use divers or an underwater ROV.

(a) If you use divers to conduct the underwater survey, you must:

(1) Locate the vessel so the divers can work safely under the vessel's keel and around both sides. The water velocity must be safe for dive operations;

(2) Provide permanent hull markings or a temporary underwater grid system

to identify the diver's location with respect to the hull, within one foot of accuracy;

(3) Take ultrasonic thickness gaugings at a minimum of 5 points on each plate, evenly spaced;

(4) Take hull plating thickness gaugings along transverse belts at the bow, stern, and midships, as a minimum. Plating thickness gaugings must also be taken along a longitudinal belt at the wind and water strake. Individual gaugings along the transverse and longitudinal belts must be spaced no more than 3 feet apart;

(5) Ensure the third party examiner observes the entire underwater examination process;

(6) Record the entire underwater survey with audio and video recording equipment and ensure that communications between divers and the third party examiner are recorded; and

(7) Use appropriate equipment, such as a clear box, if underwater visibility is poor, to provide the camera with a clear view of the hull.

(b) You may use an underwater ROV to conduct the underwater survey. The underwater ROV operating team, survey process and equipment, quality assurance methods, and the content and format of the survey report must be accepted by the Officer in Charge, Marine Inspection (OCMI) prior to the survey. If you choose this option, you must—

(1) Locate the vessel to ensure that the underwater ROV can operate effectively under the vessel's keel and around all sides;

(2) Employ divers to examine any sections of the hull and appurtenances that the underwater ROV cannot access or is otherwise unable to evaluate; and

(3) If the OCMI determines that the data obtained by the ROV, including non-destructive testing results, readability of the results, and positioning standards, will not integrate into the data obtained by the divers, then a third party examiner must be present during the divers portion of the examination.

[USCG–2000–6858, 67 FR 21078, Apr. 29, 2002]

§ 71.50–29 Hull examination reports.

(a) If you exclusively use divers for the underwater survey portion of the Alternate Hull Examination (AHE), you must provide the Officer in Charge, Marine Inspection (OCMI), with a written hull examination report. This report must include thickness gauging results, bearing clearances, a copy of the audio and video recordings and any other information that will help the OCMI evaluate your vessel for a drydock extension. The third party examiner must sign the report and confirm the validity of its contents.

(b) If you use an underwater ROV as the predominant means to examine the vessel's underwater hull plating, you must provide the OCMI with a report in the format that is accepted by the OCMI, per § 71.50–27(b) of this part.

(c) The OCMI will evaluate the hull examination report and grant a credit hull exam if satisfied with the condition of the vessel. If approved and you exclusively use divers to examine the hull plating, you may receive a credit hull exam up to 36 months. (Underwater examinations are required twice every 5 years). If approved and you use an underwater ROV as the predominant means to examine the underwater hull plating, you may receive a credit hull exam up to 60 months (5 years).

[USCG–2000–6858, 67 FR 21078, Apr. 29, 2002]

§ 71.50–31 Continued participation in the Alternative Hull Examination (AHE) program.

(a) If you conducted the AHE Program using divers only and want to continue to participate in the program, you must conduct an annual hull condition assessment. At a minimum, the hull condition assessment must include an internal examination and random hull gaugings taken internally. If the annual hull condition assessment reveals significant damage or corrosion, where temporary repairs have been made, or where other critical areas of concern have been identified, the Officer in Charge, Marine Inspection (OCMI) may require an expanded examination to include an underwater hull examination using divers. If an underwater examination is required, the examination must focus on areas at higher risk of damage or corrosion and must include a representative sampling of hull gaugings.

(b) If an underwater survey is required for the annual hull condition assessment, the OCMI may require the presence of a third party examiner and a written hull examination report must be submitted to the OCMI. This report must include thickness gauging results, a copy of the audio and video recordings and any other information that will help the OCMI evaluate your vessel for continued participation in the AHE program. The third party examiner must sign the report and confirm the validity of its contents.

(c) You must submit your preventive maintenance reports or checklists on an annual basis to the OCMI. These reports or checklists must conform to the plans you submitted in your application under § 71.50–19 of this part, which the OCMI approved.

(d) Prior to each scheduled annual hull condition assessment—

(1) The owner may submit to the OCMI a request for a waiver of this requirement no fewer than 30 days before the scheduled assessment; and

(2) The OCMI may reduce the scope or extend the interval of the assessment if the operational, casualty, and deficiency history of the vessel, along with a recommendation of the vessel's master, indicates that it is warranted.

[USCG–2000–6858, 67 FR 21078, Apr. 29, 2002]

§ 71.50–35 Notice and plans required.

(a) The master, owner, operator, or agent of the vessel shall notify the Officer in Charge, Marine Inspection, whenever the vessel is to be drydocked, regardless of the reason for drydocking.

(b) Each vessel, except barges, that holds a Load Line Certificate must have on board a plan showing the vessel's scantlings. This plan must be made available to the Coast Guard marine inspector whenever the vessel undergoes a drydock examination, internal structural examinationor underwater survey or whenever repairs are made to the vessel's hull.

(c) Each barge that holds a Load Line Certificate must have a plan showing the barge's scantlings. The plan need not be maintained on board the barge but must be made available to the Coast Guard marine inspector whenever the barge undergoes a drydock examination, internal structural examination, or underwater survey or whenever repairs are made to the barge's hull.

[CGD 84–024, 52 FR 39652, Oct. 23, 1987. Redesignated and amended by USCG–2000–6858, 67 FR 21076, Apr. 29, 2002]

Subpart 71.53—Integral Fuel Oil Tank Examinations

§ 71.53–1 When required.

(a) Each fuel oil tank with at least one side integral to the vessel's hull and located within the hull (''integral fuel oil tank'') is subject to inspection as provided in this section. Each integral fuel oil tank is subject to inspection as provided in this section. The owner or operator of the vessel shall have the tanks cleaned out and gas freed as necessary to permit internal examination of the tank or tanks designated by the marine inspector. The owner or operator shall arrange for an examination of the fuel tanks of each vessel during an internal structural examination at intervals not to exceed five years.

(b) Integral non-double-bottom fuel oil tanks need not be cleaned out and internally examined if the marine inspector is able to determine by external examination that the general condition of the tanks is satisfactory.

(c) Double-bottom fuel oil tanks on vessels less than 10 years of age need not be cleaned out and internally examined if the marine inspector is able to determine by external examination that the general condition of the tanks is satisfactory.

(d) All double-bottom fuel oil tanks on vessels 10 years of age or older but less than 15 years of age need not be cleaned out and internally examined if the marine inspector is able to determine by internal examination of at least one forward double-bottom fuel oil tank, and by external examination of all other double-bottom fuel oil tanks on the vessel, that the general condition of the tanks is satisfactory.

(e) All double-bottom fuel oil tanks on vessels 15 years of age or older need not be cleaned out and internally examined if the marine inspector is able to determine by internal examination of at least one forward, one amidships,

and one aft double-bottom fuel oil tank, and by external examination of all other double-bottom fuel oil tanks on the vessel, the general condition of the tanks is satisfactory.

[CGD 84–024, 52 FR 39652, Oct. 23, 1987, as amended by CGD 84–024, 53 FR 32231, Aug. 24, 1988]

Subpart 71.55—Repairs and Alterations

§ 71.55–1 Permission required.

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

(b) Drawings of alterations shall be approved before work is started, unless deemed unnecessary by the Officer in Charge, Marine Inspection.

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

§ 71.55–5 Inspection required.

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

(b) [Reserved]

Subpart 71.60—Special Operating Requirements

§ 71.60–1 Inspection and testing required when making alterations, repairs, or other such operations involving riveting, welding, burning or like fire-producing actions.

(a) The provisions of ''Standard for the Control of Gas Hazards on Vessels to be Repaired,'' NFPA No. 306, published by National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269, shall be used as a guide in conducting the inspections and issuance of certificates required by this section.

(b) Until an inspection has been made to determine that such operation can be undertaken with safety, no alterations, repairs, or other such operations involving riveting, welding, burning, or like fire-producing actions shall be made:

(1) Within or on the boundaries of cargo tanks which have been used to carry combustible liquid or chemicals in bulk; or,

(2) Within or on the boundaries of fuel tanks; or,

(3) To pipe lines, heating coils, pumps, fittings, or other appurtenances connected to such cargo or fuel tanks.

(c) Such inspections shall be made and evidenced as follows:

(1) In ports or places in the United States or its territories and possessions the inspection shall be made by a marine chemist certificated by the National Fire Protection Association; however, if the services of such certified marine chemist are not reasonably available, the Officer in Charge, Marine Inspection, upon the recommendation of the vessel owner and his contractor or their representative, shall select a person who, in the case of an individual vessel, shall be authorized to make such inspection. If the inspection indicated that such operations can be undertaken with safety, a certificate setting forth the fact in writing and qualified as may be required, shall be issued by the certified marine chemist or the authorized person before the work is started. Such qualifications shall include any requirements as may be deemed necessary to maintain, insofar as can reasonably be done, the safe conditions in the spaces certified throughout the operation and shall include such additional tests and certifications as considered required. Such qualifications and requirements shall include precautions necessary to eliminate or minimize hazards that may be present from protective coatings or residues from cargoes.

(2) When not in such a port or place, and a marine chemist or such person authorized by the Officer in Charge, Marine Inspection, is not reasonably available, the inspection shall be made by the senior officer present and a proper entry shall be made in the vessel's logbook.

(d) It shall be the responsibility of the senior officer present to secure copies of certificates issued by the certified marine chemist or such person authorized by the Officer in Charge, Marine Inspection. It shall be the responsibility of the senior officer

present, insofar as the persons under his control are concerned, to maintain a safe condition on the vessel by full observance of all qualifications and requirements listed by the marine chemist in the certificate.

[CGD 84–024, 52 FR 39652, Oct. 23, 1987, as amended by GCD 95–072, 60 FR 50463, Sept. 29, 1995]

Subpart 71.65—Plan Approval

§ 71.65–1 General.

(a) The list of required plans is general in character, but includes all plans in § 71.65–5 which normally show construction and safety features coming under the cognizance of the Coast Guard. In the case of a particular vessel, all of the plans enumerated may not be applicable, and it is intended that only those plans and specifications be submitted as will clearly show the vessel's arrangement, construction and required equipment.

(b) In the list of required plans in § 71.65–5 the items which must be approved by the American Bureau of Shipping for vessels classed by that organization are indicated by an asterisk. When prints bearing record of such approval by the American Bureau of Shipping are forwarded to the Coast Guard they will in general be accepted as satisfactory except insofar as the law or the Coast Guard regulations contain requirements which are not covered by the American Bureau of Shipping.

(c) Plans and specifications for cargo gear shall be approved by either a recognized classification society or a recognized cargo gear organization as defined in § 71.25–25.

[CGFR 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 95–028, 62 FR 51204, Sept. 30, 1997]

§ 71.65–5 Plans and specifications required for new construction.

(a) *General.* (1) Specifications.

(2) General Arrangement Plan of decks, holds, inner bottoms, etc., and including inboard and outboard profile.

(b) *Hull structure.*[1]

(1) *Inner Bottom Plating and Framing.

(2) *Midship Section.

(3) *Shell Plating and Framing.

(4) *Stem, Stern Frame, and Rudder.

(5) *Structural Deck Plans for Strength Decks.

(6) *Pillars and Girders.

(7) *Watertight and Oiltight Bulkheads.

(8) *Foundations for Main Machinery and Boilers.

(9) *Arrangement of Ports, Doors, and Airports in Shell Plating.

(10) *Hatch Coamings and Covers in Weather and Watertight Decks.

(11) *Details of Hinged Subdivision Watertight Doors and Operating Gear.

(12) *Scuppers and Drains Penetrating Shell Plating.

(13) *Arrangement of the cargo gear including a stress diagram. The principal details of the gear and the safe working load for each component part shall be shown.

(c) *Subdivision and stability.* Plans and calculations required by subchapter S of this chapter.

(d) *Fire control.* (1) Fire control diagram showing location and type of all required fire-screen insulation, including main fire zone and subdivisions, stairway and elevator enclosures, control space enclosures, etc., and type of all doors in such subdivisions and enclosures.

(2) Comprehensive typical details of fire-screen insulation of both vertical and horizontal surfaces, including deck coverings where used, keyed by reference numbers to the ''fire control diagram''.

(3) Ventilation diagram including dampers and other fire control features.

(4) Alarm systems.

(5) Detecting systems.

(6) Extinguishing systems, including fire mains, carbon dioxide, foam, and sprinkling systems.

(7) Supervised Patrol Route.

[1] The Asterisk (*) indicates items that are approved by the American Bureau of Shipping for vessels classed by it. Items approved the American Bureau of Shipping are generally accepted as satisfactory unless the law or Coast Guard regulations contain requirements that are not covered by the American Bureau of Shipping.

(e) *Marine engineering*. (1) For plans required for marine engineering equipment and systems, see subchapter F (Marine Engineering) of this chapter.

(2) [Reserved]

(f) *Electrical engineering*. (1) For plans required for electrical engineering equipment and systems, see subchapter J (Electrical Engineering) of this chapter.

(2) [Reserved]

(g) *Lifesaving equipment*. (1) These plans are to show the location and arrangement of embarkation decks, all overboard discharges and projections in way of launching lifeboats, weights of lifeboats fully equipped and loaded, working loads of davits and winches, types and sizes of falls, the manufacturer's name and identification for all equipment, and all other relevant and necessary information.

(i) Arrangement of lifeboats.

(ii) Arrangement of davits.

(iii) Location and stowage of liferafts and buoyant apparatus.

(2) [Reserved]

(h) *Crew's accommodations*. (1) Arrangement plans showing accommodations, ventilation, escapes, hospital, and sanitary facilities for all crewmembers.

(2) [Reserved]

(i) *Navigation bridge visibility*. For vessels of 100 meters (328 feet) or more in length contracted for on or after September 7, 1990, a plan must be included which shows how visibility from the navigation bridge will meet the standards contained in § 72.04–1 of this subchapter.

[CGFR 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 79–023, 48 FR 51007, Nov. 4, 1983; CGD 85–099, 55 FR 32247, Aug. 8, 1990; CGD 88–032, 56 FR 35824, July 29, 1991]

§ 71.65–10 Plans required for alterations of existing vessels.

(a) In the event of alterations involving the safety of the vessel, the applicable plans shall be submitted for approval covering the proposed work, except as modified by § 71.55–1(b). The general scope of the plans shall be as noted in § 71.65–5.

(b) [Reserved]

§ 71.65–15 Procedure for submittal of plans.

(a) As the relative location of shipyards, design offices, and Coast Guard offices vary throughout the country, no specific routing will be required in the submittal of plans. In general, one of the following procedures would apply, but in a particular case, if a more expeditious procedure can be used, there will be no objection to its adoption:

(1) The plans may be submitted to the Officer in Charge, Marine Inspection, in the district in which the vessel is to be built. This procedure will be most expeditious in the case of those offices where personnel and facilities are available for examination and approval of the plans locally.

(2) The plans may be submitted directly to Commanding Officer, U.S. Coast Guard Marine Safety Center, 400 Seventh St., SW., Washington, DC 20590–0001. In this case, the plans will be returned directly to the submitter, with a copy of the action being forwarded to the interested Officer in Charge, Marine Inspection.

(3) In the case of classed vessels, upon specific request by the submitter, the American Bureau of Shipping will arrange to forward the necessary plans to the Coast Guard indicating its action thereon. In this case, the plans will be returned as noted in paragraph (a)(2) of this section.

(b) [Reserved]

[CGFR 65–50, 30 FR 16895, Dec. 30, 1965, as amended by 60 FR 50463, Sept. 29, 1995; CGD 95–072, 60 FR 54106, Oct. 19, 1995]

§ 71.65–20 Number of plans required.

(a) Three copies of each plan are normally required so that one can be returned to the submitter. If the submitter desires additional approved plans, a suitable number should be submitted to permit the desired distribution.

(b) [Reserved]

[CGFR 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGFR 69–116, 35 FR 6861, Apr. 30, 1970]

Subpart 71.75—Certificates Under the International Convention for Safety of Life at Sea, 1960

§ 71.75–1 Application.

(a) The provisions of this subpart shall apply to all vessels on an international voyage.

(b) [Reserved]

§ 71.75–5 Passenger Ship Safety Certificate.

(a) All vessels on an international voyage are required to have a ''Passenger Ship Safety Certificate.''

(b) All such vessels shall meet the requirements of this chapter for vessels on an international voyage.

[CGFR, 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 95–012, 60 FR 48051, Sept. 18, 1995]

§ 71.75–10 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.

[CGFR, 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 95–012, 60 FR 48051, Sept. 18, 1995]

§ 71.75–13 Safety Management Certificate.

All vessels to which 33 CFR part 96 applies on an international voyage must have a valid Safety Management Certificate and a copy of their company's valid Document of Compliance certificate on board.

[CGD 95–073, 62 FR 67514, Dec. 24, 1997]

§ 71.75–15 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 § 71.01–5 for a certificate of inspection.

§ 71.75–20 Duration of certificates.

(a) The certificates are issued for a period of not more than 12 months, with exception to a Safety Management Certificate which is issued for a period of not more than 60 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.)

[CGFR, 65–50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 95–012, 60 FR 48051, Sept. 18, 1995; CGD 95–073, 62 FR 67514, Dec. 24, 1997]

PART 72—CONSTRUCTION AND ARRANGEMENT

Subpart 72.01—Hull Structure

Sec.
72.01–1 Application.
72.01–5 Vessels subject to load line.
72.01–10 Vessels using fuel having a flashpoint of 110 degrees F. or lower.
72.01–15 Structural standards.
72.01–20 Special consideration.
72.01–25 Additonal structural requirements.
72.01–90 Vessels contracted for prior to November 19, 1952.

Subpart 72.03—General Fire Protection

72.03–1 Application.
72.03–5 Fire hazards to be minimized.
72.03–10 Woodwork insulated from heated surfaces.
72.03–15 Lamp room construction.

Subpart 72.04—Navigation Bridge Visibility

72.04–1 Navigation bridge visibility.

Subpart 72.05—Structural Fire Protection

72.05–1 Application.
72.05–5 Definitions.
72.05–10 Type, location, and construction of fire control bulkheads and decks.

72.05–15 Ceilings, linings, trim, and decorations in accommodation spaces and safety areas.
72.05–20 Stairways, ladders, and elevators.
72.05–25 Doors, other than watertight.
72.05–30 Windows and airports.
72.05–35 Hatch covers and shifting boards.
72.05–40 Insulation, other than for structural fire protection.
72.05–45 Paint.
72.05–50 Ventilation.
72.05–55 Furniture and furnishings.
72.05–90 Vessels contracted for prior to May 26, 1965.

Subpart 72.10—Means of Escape

72.10–1 Application.
72.10–5 Two means required.
72.10–10 Location.
72.10–15 Vertical ladders not acceptable.
72.10–20 No means for locking door.
72.10–25 Stairway size.
72.10–30 Dead end corridors.
72.10–35 Public spaces.
72.10–40 Access to lifeboats.
72.10–45 Weather deck communications.
72.10–90 Vessels contracted for prior to November 19, 1952.

Subpart 72.15—Ventilation

72.15–1 Application.
72.15–5 Structural fire protection.
72.15–10 Vessels using fuel having a flashpoint of 110 degrees F. or lower.
72.15–15 Ventilation for closed spaces.
72.15–20 Ventilation for crew quarters and passenger spaces.
72.15–90 Vessels contracted for prior to November 19, 1952.

Subpart 72.20—Accomodations for Officers and Crew

72.20–1 Application.
72.20–5 Intent.
72.20–10 Location of crew spaces.
72.20–15 Construction.
72.20–20 Sleeping accommodations.
72.20–25 Washrooms and toilet rooms.
72.20–30 Messrooms.
72.20–35 Hospital space.
72.20–40 Other spaces.
72.20–45 Lighting.
72.20–50 Heating and cooling.
72.20–55 Insect screens.
72.20–90 Vessels contracted for prior to November 19, 1952.

Subpart 72.25—Passenger Accommodations

72.25–1 Application.
72.25–10 Location of passenger quarters.
72.25–15 Passenger accommodations for excursion boats, ferryboats, and passenger barges.

Subpart 72.30—Subdivision and Stability

72.30–1 Application.

Subpart 72.40—Rails and Guards

72.40–1 Application.
72.40–5 Where rails required.
72.40–10 Storm rails.
72.40–15 Vehicular ferries.
72.40–20 Guards in dangerous places.
72.40–90 Vessels contracted for prior to July 1, 1969.

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

SOURCE: CGFR 65–50, 30 FR 16903, Dec. 30, 1965, unless otherwise noted.

Subpart 72.01—Hull Structure

§ 72.01–1 Application.

The provisions of this subpart, with the exception of § 72.01–90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 72.01–90.

[CGD 95–028, 62 FR 51204, Sept. 30, 1997]

§ 72.01–5 Vessels subject to load line.

(a) For vessels assigned a load line, see subchapter E (Load Lines) of this chapter, for special requirements as to strength, closure of openings, etc.

(b) [Reserved]

§ 72.01–10 Vessels using fuel having a flashpoint of 110 degrees F. or lower.

(a) Where liquid fuel having a flashpoint of 110 degrees F. or lower is carried for main or auxiliary machinery or for starting purposes, such machinery and fuel tanks shall be in separate vapor tight compartments separating each from the other and from the remainder of the vessel.

(b) [Reserved]

§ 72.01–15 Structural standards.

(a) In general, compliance with the standards established by the American Bureau of Shipping, see subpart 70.35 of this subchapter, will be considered satisfactory evidence of the structural efficiency of the vessel. However, in special cases, a detailed analysis of the entire structure or some integral part may be made by the Coast Guard to determine the structural requirements.

(b) [Reserved]

§ 72.01–20 Special consideration.

(a) Special consideration will be given to the structural requirements for vessels, such as small vessels or vessels of unusual design not contemplated by the standards established by the American Bureau of Shipping, see subpart 70.35 of this subchapter.

(b) [Reserved]

§ 72.01–25 Additional structural requirements.

(a) Vessels required by part 171 of this chapter to have subdivision bulkheads, double bottoms, etc. must comply with the following structural requirements:

(1) Each watertight subdivision bulkhead, whether transverse or longitudinal, shall be constructed in such a manner that it shall be capable of supporting, with a proper margin of resistance, the pressure due to the maximum head of water which it might have to sustain in the event of damage to the vessel, but at least the pressure due to a head of water up to the margin line. The construction of the bulkheads shall be to the satisfaction of the Commandant.

(2) Steps and recesses in subdivision bulkheads shall be watertight and as strong as the bulkhead at the place where each occurs. Decks, trunks, tunnels, duct keels, ventilators, etc., that are made watertight to maintain the subdivision requirements for a vessel shall be of the same strength as the bulkhead at the corresponding levels. The means used for making them watertight and the arrangements adopted for closing openings in them shall be to the satisfaction of the Commandant. Watertight ventilators and trunks shall be carried at least up to the bulkhead deck.

(3) Where frames or beams pass through a watertight bulkhead or deck, such bulkhead or deck shall be made structurally watertight without the use of wood, cement, or similar materials.

(4) Subdivision bulkheads, including steps, recesses, trunks, tunnels, ventilators, etc., which might form part of such bulkheads, shall be thoroughly examined and hose tested upon completion of construction. The water pressure for such tests shall be at least 30 p.s.i. Testing of main compartments by filling them with water is not compulsory.

(5) The forepeak, double bottoms (including duct keels), and inner skins shall be tested with water to-a-head corresponding to the requirements of paragraph (a)(1) of this section upon completion of construction.

(6) The watertight space enclosing the stern tube shall be tested by filling with water to-a-head up to the deepest subdivision load line.

(7) Tanks which are intended to hold liquids, and which form part of the subdivision of the vessel, shall be tested for tightness upon completion of construction with water to-a-head up to the deepest subdivision load line or to-a-head corresponding to ⅔ of the depth from the top of the keel to the margin line in way of the tanks, whichever is greater; but in no case shall the test-head be less than 3 feet above the top of the tank.

(8) The tests referred to in the preceding paragraphs (a) (5), (6), and (7) of this section are for the purpose of insuring that the subdivision structural arrangements are watertight and are not regarded as a test of the fitness of any compartment for the storage of oil, fuel or for other specific purposes for which a test of a superior character may be required depending upon the height to which the liquid has access in the tank or its connections.

(b) [Reserved]

[CGFR 65–50, 30 FR 16903, Dec. 30, 1965, as amended by CGD 79–023, 48 FR 51007, Nov. 4, 1983]

§ 72.01–90 Vessels contracted for prior to November 19, 1952.

(a) Existing structure previously approved will be considered satisfactory so long as it is maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original construction.

(b) [Reserved]

[CGFR 65–50, 30 FR 16903, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15281, Dec. 6, 1966]

Subpart 72.03—General Fire Protection

§ 72.03–1 Application.

(a) The provisions of this subpart shall apply to all vessels.

(b) [Reserved]

§ 72.03–5 Fire hazards to be minimized.

(a) The general construction of the vessel shall be such as to minimize fire hazards insofar as is reasonable and practicable.

(b) [Reserved]

§ 72.03–10 Woodwork insulated from heated surfaces.

(a) 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.

(b) [Reserved]

§ 72.03–15 Lamp room construction.

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

(b) [Reserved]

Subpart 72.04—Navigation Bridge Visibility

§ 72.04–1 Navigation bridge visibility.

Each passenger vessel which is 100 meters (328 feet) or more in length and contracted for on or after September 7, 1990, must meet the following requirements:

(a) The field of vision from the navigation bridge, whether the vessel is in a laden or unladen condition, must be such that:

(1) From the conning position, the view of the sea surface is not obscured forward of the bow by more than the lesser of two ship lengths or 500 meters (1640 feet) from dead ahead to 10 degrees on either side of the vessel. Within this arc of visibility any blind sector caused by cargo, cargo gear, or other permanent obstruction must not exceed 5 degrees.

(2) From the conning position, the horizontal field of vision extends over an arc from at least 22.5 degrees abaft the beam on one side of the vessel, through dead ahead, to at least 22.5 degrees abaft the beam on the other side of the vessel. Blind sectors forward of the beam caused by cargo, cargo gear, or other permanent obstruction must not exceed 10 degrees each, nor total more than 20 degrees, including any blind sector within the arc of visibility described in paragraph (a)(1) of this section.

(3) From each bridge wing, the field of vision extends over an arc from at least 45 degrees on the opposite bow, through dead ahead, to at least dead astern.

(4) From the main steering position, the field of vision extends over an arc from dead ahead to at least 60 degrees on either side of the vessel.

(5) From each bridge wing, the respective side of the vessel is visible forward and aft.

(b) Windows fitted on the navigation bridge must be arranged so that:

(1) Framing between windows is kept to a minimum and is not installed immediately in front of any work station.

(2) Front windows are inclined from the vertical plane, top out, at an angle of not less than 10 degrees and not more than 25 degrees.

(3) The height of the lower edge of the front windows is limited to prevent any obstruction of the forward view previously described in this section.

(4) The height of the upper edge of the front windows allows a forward view of the horizon at the conning position, for a person with a height of eye of 1.8 meters (71 inches), when the vessel is at a forward pitch angle of 20 degrees.

(c) Polarized or tinted windows must not be fitted.

[CGD 85–099, 55 FR 32247, Aug. 8, 1990]

Subpart 72.05—Structural Fire Protection

§ 72.05–1 Application.

(a) The provisions of this subpart shall apply to the following vessels:

(1) All vessels of 100 gross tons and over.

(2) All vessels which carry more than 150 passengers.

(3) All vessels on an international voyage.

(b) The provisions of this subpart, with the exception of § 72.05–90, shall apply to all vessels noted in paragraph (a) of this section contracted for on or after May 26, 1965. Such vessels contracted for prior to May 26, 1965, shall meet the requirements of § 72.05–90.

§ 72.05–5 Definitions.

NOTE: The parenthetical number after each space refers to the applicable column and row number in tables 72.05–10 (d) through (g).

(a) *Safety areas* will be considered as including the following spaces:

(1) Control stations, i.e., spaces containing the emergency source of power, and those spaces in which a continuous watch is maintained and in which navigating, radio, or fire-control equipment is located. (1)

(2) Passenger and crew stairway and elevator enclosures. (2)

(3) Passenger and crew communicating corridors. (3)

(4) Open decks and enclosed promenades in way of lifeboat embarkation or lowering positions. (4) (See also paragraph (l) of this section.)

(b) *Accommodation spaces* will be considered as including the following spaces:

(1) Public spaces, such as halls, dining rooms, messrooms, lounges, cafes, and other similar spaces normally accessible during the voyage. (5) through (7) (Depending upon size and furnishings.)

(2) Public sales rooms and similar spaces. (6) or (7) (Depending on size.)

(3) Staterooms, including passenger and crew rooms, barber shops, beauty parlors, offices, dispensaries, etc. (5) or (6) (Depending on furnishings.)

(4) Washrooms and toilet spaces, both public and private. (8)

(5) Isolated lockers and small storerooms in accommodation areas. (6)

(6) Isolated serving pantries, etc., in accommodation areas, with incombustible furnishings. (8)

(7) Operating rooms. (8)

(8) Small laundries containing only tubs and washing machines, with no facilities for drying other than small electric driers. (8)

(9) Small cleaning gear lockers containing only slop sinks, and having no room for stowing materials other than a broom, mop, cleaning powder, soap, etc. (8)

(10) Large cleaning gear lockers having considerable stowage space. (6) or (9)

(c) *Service spaces* will be considered as including the following spaces:

(1) Motion picture projection rooms and film stowage rooms. (6) or (9)

(2) Galleys, main pantries, and storerooms, including alleyways and stairs, part of and for the exclusive use of such spaces. (9)

(3) Diet kitchens. (6) or (9) (Depending on furnishing.)

(4) Work shops (not part of machinery spaces, galleys, etc.), large laundries, drying rooms, mail and baggage rooms, etc. (9)

(5) Garbage disposal and stowage rooms, and trash stowage rooms. (9)

(6) Paint and lamp rooms, and similar spaces containing highly combustible materials. (9)

(d) *Machinery spaces*—will be considered as including the following spaces:

(1) Main machinery spaces, including trunks and casings, alleyways, gratings, and stairways, part of and for the exclusive use of these spaces, auxiliary machinery spaces containing internal combustion machinery or other oil burning, heating, or pumping units, and fuel oil filling stations. (10)

(2) Auxiliary machinery spaces containing only pumps, tanks, electrical machinery, ventilation or air conditioning equipment, resistors, steering machinery, stabilizer machinery, etc. (12) (Where such spaces contain considerable stowage space for combustibles.) (10)

(e) *Cargo spaces* will be considered as including the following spaces:

(1) Cargo holds, lockers, and trunks, both accessible and inaccessible and including refrigerated cargo spaces and cargo oil tanks intended for the alternate carriage of dry cargo. (11)

(2) Cargo oil tanks if not intended for the alternate carriage of dry cargo. (12)

(f) *Miscellaneous spaces* will be considered as including the following spaces:

(1) Fuel and water tanks and voids. (12)

(2) Open decks and enclosed promenades except in way of lifeboat embarkation and lowering positions. (13) (See also paragraph (l) of this section.)

(3) Shaft alleys when separated from machinery spaces, and containing no space assigned for the stowage of combustibles. (12)

(g) A *standard fire test* is one which develops in the test furnace a series of time-temperature relationships as follows:

5 minutes	1,000 °F.
10 minutes	1,300 °F.
30 minutes	1,550 °F.
60 minutes	1,700 °F.

(h) *Main vertical zones* are those sections, the mean length of which does not, in general, exceed 131 feet on any one deck, into which the hull, superstructure, and deckhouses are required to be divided by fire-resisting bulkheads.

(i) Where the term *steel or other equivalent metal* is used in this part, it is intended to require a material which, by itself or due to insulation provided, has structural and integrity qualities equivalent to steel at the end of the applicable fire exposure.

(j) Working spaces will be considered as only those service and machinery spaces where personnel are normally employed as contrasted to those where personnel may occasionally visit or be employed for short periods of time.

(k) Passenger or crew corridors over 8 feet in width will be considered as public spaces for the purpose of this subpart.

(l) Spaces which might be considered as open decks due to the presence of permanent openings to the weather in one or more sides, or where any or all sides may be completely open to the weather, will be considered as interior or enclosed spaces for the purpose of this subpart if any spot on the overhead is more than 15 feet from the nearest opening to the weather. This requirement shall only apply to those portions of the space as are under a deck or canopy, but it shall not be considered as a restriction against permanent opening or a restriction against the materials used for a canopy. This paragraph shall not apply to open or enclosed promenades having a nominal width of 15 feet or less.

(m) Where balconies are installed opening into a space, the following general requirements shall be met:

(1) For the purpose of meeting main vertical zone bulkhead spacing, the length of the space to which the balcony is open will be considered as being increased by an amount equal to the gross area of the balcony divided by the average width of the space.

(2) Where balconies are formed by penetrating one or more decks, the bulkheads in the upper portion of the space are, in effect, part of a stepped or recessed deck and should be treated as such for fire control purposes. In this regard, particular attention should be given to the protection of openings with proper doors of the type indicated in § 72.05–25(b)(9).

(3) Two means of escape shall be provided for each balcony, at least one of which shall be independent of the space to which the balcony is open.

§ 72.05–10 Type, location, and construction of fire control bulkheads and decks.

(a) The hull, structural bulkheads, decks, and deckhouses shall be constructed of steel or other equivalent metal construction of appropriate scantlings.

(b) The hull, superstructure, and deck houses shall be subdivided by suitable structural steel or other equivalent metal bulkheads into main vertical zones, the mean length of which shall not, in general, exceed 131 feet on any one deck. Where practicable, the main vertical zone bulkheads shall be kept in a single vertical plane. However, on vessels designed for special purposes, such as automobile or railroad car ferries, where the installation of such bulkheads would defeat the purpose for which the vessel is intended, equivalent means for controlling and limiting a fire may be substituted if specifically approved by the Commandant.

(c) All bulkheads and decks shall be classed as A–60, A–30, A–15, A–0, B–15, B–0, or C, depending upon the type of space on each side of the bulkhead or above and below the deck.

(1) Bulkheads or decks of the ''A'' Class shall be composed of steel or

equivalent metal construction, suitably stiffened and made intact with the main structure of the vessel, such as shell, structural bulkheads, and decks. They shall be so constructed that, if subjected to the standard fire test, they would be capable of preventing the passage of smoke and flame for 1 hour. In addition, they shall be so insulated with approved structural insulation, bulkhead panels, or deck covering that the average temperatures on the unexposed side would not rise more than 250 °F. above the original temperature, nor would the temperature at any one point, including any joint, rise more than 325 °F. above the original temperature, within the time listed below:

Class A–60	60 minutes.
Class A–30	30 minutes.
Class A–15	15 minutes.
Class A–0	0 minutes (i.e., no insulation requirements).

(2) Bulkheads of the ''B'' Class shall be constructed with approved incombustible materials and made intact from deck to deck (or to ceiling as provided in paragraph (h) of this section) and to shell or other boundaries. They shall be so constructed that, if subjected to the standard fire test, they would be capable of preventing the passage of flame for ½ hour. In addition, their insulation value shall be such that the average temperature of the unexposed side would not rise more than 250 °F. above the original temperature, nor would the temperature at any one point, including any joint, rise more than 405 °F. above the original temperature within the time listed below:

Class B–15	15 minutes.
Class B–0	0 minutes (i.e., no insulation requirements).

(3) Class C bulkheads or decks shall be constructed of approved incombustible materials, but need meet no requirements relative to the passage of flame nor the limiting of temperature rise.

(d) The minimum requirements for the bulkheads between the various spaces, where such bulkheads form the boundaries of main vertical zones, shall be as noted in table 72.05–10(d).

(e) The minimum requirements for the bulkheads between the various spaces, where such bulkheads do not form the boundaries of main vertical zones, shall be as noted in table 72.05–10(e).

(f) The minimum requirements for the decks between the various spaces, where such decks form the boundaries of stepped main vertical zones, shall be as noted in table 72.05–10(f).

(g) The minimum requirements for the decks between the various spaces, where such decks do not form the boundaries of stepped main vertical zones, shall be as noted in table 72.05–10(g).

TABLE 72.05–10(d)—BULKHEADS—MAIN VERTICAL ZONE

ADJACENT TO		THIS SPACE:												
		Control stations	Stairway and elevator enclosures	Corridors	Life boat embarkation or lowering stations	Staterooms and all public spaces with incombustible veneers and trim and fire resistant furnishings	Staterooms and public spaces of 500 square feet or less with combustible furnishings and isolated storerooms	Public spaces over 500 square feet with combustible furnishings	Washrooms toilet spaces, and isolated pantries with incombustible fittings	Galley, main pantries, storerooms, and workshops	Machinery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and enclosed promenades (not safety areas)
THIS SPACE:														
Control stations	1	A-60	A-15	A-15	A-0	A-30	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0
Stairway and elevator enclosures	2	.....	A-0	A-0	A-0	A-0	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0
Corridors	3	.....	.....	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Lifeboat embarkation or lowering stations	4	.....	.....	.....	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C
Staterooms and all public spaces with incombustible veneers and trim and fire resistant furnishings	5	.....	.....	.....	.....	A-15	A-15	A-15	A-0	A-30	A-30	A-30	A-0	A-0
Staterooms and public spaces of 500 square feet or less with combustible furnishings, and isolated storerooms	6	.....	.....	.....	.....	.....	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0
Public spaces over 500 square feet with combustible furnishings	7	.....	.....	.....	.....	.....	.....	A-60	A-0	A-60	A-60	A-60	A-0	A-0
Washrooms, toilet spaces, and isolated pantries with incombustible fittings	8	.....	.....	.....	.....	.....	.....	.....	A-0	A-0	A-0	A-0	A-0	A-0
Galleys, main pantries, storerooms, and workshops	9	.....	.....	.....	.....	.....	.....	.....	.....	A-0	A-0	A-0	A-0	A-0
Machinery spaces	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	A-0	A-0	A-0	A-0
Dry cargo spaces	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A-0	A-0	A-0
Fuel and water tanks and voids	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A-0	A-0
Open decks and enclosed promenades (not safety areas)	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C

TABLE 72.05–10(e)—BULKHEADS—NOT MAIN VERTICAL ZONES

ADJACENT TO		THIS SPACE:												
		Control stations	Stairway and elevator enclosures	Corridors	Life boat embarkation or lowering stations	Staterooms and all public spaces with incombustible veneers and trim and fire resistant furnishings	Staterooms and public spaces of 500 square feet or less with combustible furnishings and isolated storerooms	Public spaces over 500 square feet with combustible furnishings	Washrooms toilet spaces, and isolated pantries with incombustible fittings	Galley, main pantries, storerooms, and workshops	Machinery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and enclosed promenades (not safety areas)
THIS SPACE:														
Control stations	1	B-0	A-0	A-0	A-0	A-15	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0
Stairway and elevator enclosures	2	.....	C	A-0	A-0	A-0	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0
Corridors	3	.....	.....	C	A-0	B-0	B-0	A-0	B-0	A-0	A-0	A-0	A-0	A-0
Lifeboat embarkation or lowering stations	4	.....	.....	.....	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C
Staterooms and all public spaces with incombustible veneers and trim and fire-resistant furnishings	5	.....	.....	.....	.....	B-0	B-15	A-15	B-0	A-15	A-15	A-15	A-0	A-0
Staterooms and public spaces of 500 square feet or less with combustible furnishings, and isolated storerooms	6	.....	.....	.....	.....	.....	B-15	A-30	B-0	A-60	A-60	A-60	A-0	A-0
Public spaces over 500 square feet with combustible furnishings	7	.....	.....	.....	.....	.....	.....	A-60	B-0	A-60	A-60	A-60	A-0	A-0
Washrooms, toilet spaces and isolated pantries with incombustible fittings	8	.....	.....	.....	.....	.....	.....	.....	C	A-0	A-0	A-0	A-0	A-0
Galleys, main pantries, storerooms, and workshops	9	.....	.....	.....	.....	.....	.....	.....	.....	C[1]	A-0	A-0	A-0	A-0
Machinery spaces	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	C	A-0	A-0	A-0
Dry cargo spaces	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A-0	A-0	A-0
Fuel and water tanks and voids	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A-0	A-0
Open decks and enclosed promenades (not safety areas)	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C

[1] Class C bulkheads may be used between two similar spaces, such as between two similar storerooms. However, a Class A-0 bulkhead shall be used between dissimilar spaces, such as a storeroom and a dissimilar workshop.

TABLE 72.05–10(f)—DECKS—MAIN VERTICAL ZONES

ADJACENT TO		THIS SPACE: Control stations	Stairway and elevator enclosures	Corridors	Life boat embarkation or lowering stations	Staterooms and all public spaces with incombustible veneers and trim and fire resistant furnishings	Staterooms and public spaces of 500 square feet or less with combustible furnishings and isolated storerooms	Public spaces over 500 square feet with combustible furnishings	Washrooms toilet spaces, and isolated pantries with incombustible fittings	Galley, main pantries, storerooms, and workshops	Machinery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and enclosed promenades (not safety areas)
THIS SPACE:														
Control stations	1	A-60	A-60	A-30	A-0	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Stairway and elevator enclosures	2	A-15	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Corridors	3	A-30	A-0	A-0	A-0	A-0	A-0	A-15	A-0	A-0	A-0	A-0	A-0	A-0
Lifeboat embarkation or lowering stations	4	A-0	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C
Staterooms and all public spaces with incombustible veneers and trim and fire resistant furnishings	5	A-30	A-30	A-15	A-0	A-15	A-15	A-30	A-0	A-0	A-0	A-0	A-0	A-0
Staterooms and public spaces of 500 square feet or less with combustible furnishings, and isolated storerooms	6	A-60	A-60	A-30	A-15	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Public spaces over 500 square feet with combustible furnishings	7	A-60	A-60	A-60	A-30	A-30	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Washrooms, toilet spaces, and isolated pantries with incombustible fittings	8	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Galleys, main pantries, storerooms, and workshops	9	A-60	A-60	A-60	A-30	A-30	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Machinery spaces	10	A-60	A-60	A-60	A-30	A-30	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Dry cargo spaces	11	A-60	A-60	A-60	A-30	A-30	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Fuel and water tanks and voids	12	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Open decks and enclosed promenades (not safety areas)	13	A-0	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C

TABLE 72.05–10(g)—DECKS—NOT MAIN VERTICAL ZONES

ADJACENT TO		THIS SPACE:												
		Control stations	Stairway and elevator enclosures	Corridors	Life boat embarkation or lowering stations	Staterooms and all public spaces with incombustible veneers and trim and fire resistant furnishings	Staterooms and public spaces of 500 square feet or less with combustible furnishings and isolated storerooms	Public spaces over 500 square feet with combustible furnishings	Washrooms toilet spaces, and isolated pantries with incombustible fittings	Galley, main pantries, storerooms, and workshops	Machinery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and enclosed promenades (not safety areas)
THIS SPACE:														
Control stations	1	A-30	A-30	A-15	A-0	A-0	A-15	A-30	A-0	A-0	A-0	A-0	A-0	A-0
Stairway and elevator enclosures	2	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Corridors	3	A-15	A-0	A-0	A-0	A-0	A-0	A-15	A-0	A-0	A-0	A-0	A-0	A-0
Lifeboat embarkation or lowering stations	4	A-0	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C
Staterooms and all public spaces with incombustible veneers and trim and fire resistant furnishings	5	A-15	A-15	A-0	A-0	A-0	A-0	A-15	A-0	A-0	A-0	A-0	A-0	A-0
Staterooms and public spaces of 500 square feet or less with combustible furnishings and isolated storerooms	6	A-60	A-60	A-30	A-15	A-0	A-30	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Public spaces over 500 square feet with combustible furnishings	7	A-60	A-60	A-60	A-30	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Washrooms, toilet spaces, and isolated pantries with incombustible fittings	8	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Galleys, main pantries, storerooms, and workshops	9	A-60	A-60	A-60	A-30	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Machinery spaces	10	A-60	A-60	A-60	A-30	A-15	A-60	A-60	A-0	A-0	C	A-0	A-0	A-0
Dry cargo spaces	11	A-60	A-60	A-60	A-30	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Fuel and water tanks and voids	12	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Open decks and enclosed promenades (not safety areas)	13	A-0	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C

(h) Where ceilings or linings are fitted, ''B'' Class bulkheads, with the exception of those forming passageways, may stop at the ceiling or lining and need not continue to the deck or shell, provided the ceiling and/or lining is erected as indicated in paragraph (j) of this section. However, draft stops meeting at least Class B–0 requirements shall be fitted not more than 45 feet apart between the ceiling or lining and the deck or shell. The space behind the linings of stairways and similar trunks shall have similar draft stops at each deck.

(i) Where Class B–15 bulkhead panels are required to go beyond the ceiling to the deck above, or beyond the lining to the shell, the portion of the bulkhead panel within the void space need only meet B–0 requirements.

(j) Where ''B'' Class panels are used, all four edges of the panel shall be retained by continuous steel or equivalent metal flanges on both sides of the panel offering at least ¾ inch coverage. The top and bottom flanges shall be so attached to the structural decks above and below so as to support and restrain the panels in the event of fire. Other methods of construction may be specifically approved by the Commandant if determined to be equivalent.

(k) Any sheathing, furring, or holding pieces incidental to the securing of structural insulation shall be of approved incombustible materials.

(l) Where linings or bulkhead panels are framed away from the shell or structural bulkheads, the deck within the void space so formed need only meet Class A-0 requirements.

(m) Decks within accommodation spaces and inside safety areas may have an overlay for leveling or finishing purposes which need not meet the requirements for an approved deck covering. Such an overlay will not be considered as giving any insulating value and may not in general exceed ⅜ of an inch in thickness. Greater thicknesses may be specifically approved by the Commandant for specific locations.

(n) Rugs and carpets may be used in addition to any deck covering or overlay installed. Rugs and carpets used in stairways or corridors shall be of wool, or other materials having equivalent fire-resistive qualities.

(o) Decking within surgical operating rooms shall be of a type which is acceptably conductive to prevent accumulation of dangerous electrostatic charges, and shall be in general agreement with ''Code for Flammable Anesthetics'' of issue in effect at the time the construction or alteration of the vessel is contracted for, published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269.

(p) Decks in washrooms and toilet spaces, service, cargo, and machinery spaces, open decks, exterior safety areas, and enclosed promenades may have an overlay in any thickness. This overlay need not meet the requirements for an approved deck covering.

[CGFR 65–50, 30 FR 16903, Dec. 30, 1965, as amended by CGD 95–072, 60 FR 50463, Sept. 29, 1995; CGD 95–028, 62 FR 51204, Sept. 30, 1997]

§ 72.05–15 Ceilings, linings, trim, and decorations in accommodation spaces and safety areas.

(a) Ceilings and linings and any furring incidental to their erection shall be of approved incombustible materials. Where such ceilings or linings are given credit for their insulating value in obtaining a bulkhead or deck classification they shall be of Class B–15 bulkhead panel material, and the construction shall be as required by § 72.05–10(j).

(b) Bulkheads, linings, and ceilings may have a combustible veneer within a room not to exceed 2/28 of an inch in thickness. However, combustible veneers shall not be used in passageways or stairway enclosures, or in spaces specifically restricted by tables 72.05–10 (d) through (g).

(c) The total volume of combustible face trim, moldings, and decorations, including veneers, in any compartment shall not exceed a volume equivalent to 1/10 inch veneer on the combined area of the walls of the compartment. Such trim, molding, or decorations shall not perform any structural function, and shall not be used in corridors or stairway enclosures.

(d) Combustible veneers, trim, decorations, etc., shall not be used in or extend into hidden spaces such as behind

linings or ceilings or in the matter of double bulkheads.

(e) Nothing in this subpart shall be construed as prohibiting the covering of any surface with a reasonable number of coats of paint or with a Marine Finish meeting the requirements of subpart 164.012 of subchapter Q (Specifications) of this chapter. This includes corridors, stairway enclosures, and hidden spaces.

(f) Partial bulkheads or decks used to subdivide a space for artistic treatment, privacy, etc., shall meet the requirements of Class C bulkheads.

§ 72.05–20 Stairways, ladders, and elevators.

(a)(1) Except as further noted the provisions of this section apply to all vessels.

(2) For small vessels, special consideration for relief may be given where it is shown to be unreasonable or impracticable to meet the detailed requirements for stairway size, slope, dimensioning, and landing area.

(3) Stairways, ladders, and elevators within main machinery spaces or cargo holds are not covered by the general provisions of this section, but shall meet the requirements of paragraph (b) of this section.

(b) Stairways, ladders, and elevators within main machinery spaces and cargo holds shall meet the following requirements:

(1) All stairways, ladders, and elevators shall be of steel.

(2) [Reserved]

(c) Deck penetrations shall meet the following requirements:

(1) Where a continuous vertical deck penetration for a stairway or elevator exceeds one deck, the integrity of all decks involved shall be assured by enclosure bulkheads and decks meeting the applicable requirements of § 72.05–10 (d) through (g), and by doors at all levels meeting the requirements of § 72.05–25(b)(9).

(2) Where only two decks are served by a stairway or elevator, the integrity of the deck involved may be assured as noted in the preceding paragraph. Alternately, the integrity may be maintained at one level only by means of bulkheads and by doors meeting the requirements of § 72.05–25(b)(9). If the latter method is used, it should be noted that the integrity of a deck is involved, and accordingly, the bulkhead classifications should be selected from tables 72.05–10(f) or 72.05–10(g), the spaces above or below being assumed to extend to the bulkheads and doors.

(3) Stairways or elevators to a balcony within a space need not be enclosed, provided the stairway or elevator serves only the space and the balcony within the space.

(d) For the purpose of this section, stairways are identified as follows:

Type 1—Main Vertical Zone enclosed stair towers.

Type 2—Enclosed stairways other than Type 1.

Type 3—Interior stairway not enclosed.

Type 4—Exterior stairways or exterior inclined ladders.

(e) Each Main Vertical Zone shall be served by at least one Type 1 stairway, so that independent of adjoining Main Vertical Zones, escape may be effected from any accommodation space or any other space where persons may be normally quartered or employed, to ALL other decks having any such spaces within the same Main Vertical Zone without coming out of the stair tower enclosure. Each Type 1 stairway shall give access to the Embarkation Deck or, if the Embarkation Deck does not extend to the portion of the vessel in question, to at least one weather deck from which convenient communication to the Embarkation Deck is provided by means of Type 4 stairways. In cases where a Type 1 stairway is accessible from two Main Vertical Zones, it may be considered as the required Type 1 stairway for both zones provided all boundaries of the stairway meet Main Vertical Zone requirements.

(f) Insofar as is reasonable and practicable, Types 1 and 2 stairways, and all elevator enclosures, should not give direct access to accommodations or other enclosed spaces in which a fire may originate.

(g) The furnishings for Types 1 and 2 stairways, and all elevator enclosures, shall be as set forth in § 72.05–55(c).

(h) In general, curved, spiral, or winding stairways will not be permitted. Relaxation from this requirement may be permitted, provided, in the opinion of the Commandant, the

proposed stairway is equivalent with respect to safety and dimensions to the stairways covered by this section.

(i) For all types of stairways, the stairs, platforms, and landings shall be of sufficient strength to sustain a load of 100 pounds per square foot with a factor of safety of 4 based on the ultimate strength.

(j) The stringers, treads, and all platforms and landings of all Types 1, 2, and 3 stairways shall be of solid steel construction. Risers shall be of approved incombustible material.

(k) For all types of stairways, handrails shall be fitted on both sides of the stairs. For stairways in excess of 66 inches in width, additional center handrails shall be provided. All handrails shall be fitted at a vertical height above the tread at its nosing of between 33 and 36 inches.

(l) For all types of stairways, the stair width shall be clear of all obstructions other than the handrails.

(m) Handrails and trim for all Types 1, 2, and 3 stairways shall be of approved ''incombustible materials.''

(n) For all types of stairways, there shall be no variation in the width of the stairs, the depth of the tread, or the height of the risers in any flight. Where variation in height of riser or depth of tread in different flights is necessary, such variations shall be minimized.

(o) For all types of stairways, the sum of the riser height and tread depth shall be at least 17 inches and not more than 18 inches. Types 1, 2, and 3 stairways having treads less than 10 inches in depth shall have a nosing of one inch or other means to provide additional room on the tread.

(p) All stairways shall be dimensioned in accordance with table 72.05–20(p), depending upon the type of stairway and the number of persons served.

TABLE 72.05–20(p)

Type of stairway	Primary use	Maximum angle of inclination (degrees)	Minimum stair tread width, in inches, based upon number of persons served by the stairway—Number of persons						
			1–10	11–20	21–30	31–40	41–50	51–60	Over 60
1	Passenger or crew	40	28	30	32	34	36	40	44
2 or 3	Passenger	40	28	30	32	34	36	36	36
2 or 3	Crew	50	28	30	30	30	30	30	30
4	Passenger or embarkation route.	45	28	30	30	30	30	30	30
4	Crew	55	24	24	24	24	24	24	24

(1) The maximum angle of inclination from the horizontal for any stairway shall be as given in table 72.05–20(p).

(2) For all types of stairways, the minimum width shall be determined on a deck-by-deck basis. Except as further noted, on any particular deck, only those persons on that deck using the stairway are involved in the width determination. However, once a minimum required width has been established at any one level, that width may not be reduced at any subsequent deck level in the direction of normal escape. This does not prohibit the use of stair widths exceeding the required minimum for any particular flight or flights.

(3) The various spaces shall be considered to have the number of persons in them as follows:

(i) Passenger staterooms—designed capacity.

(ii) Crew staterooms—two-thirds designed capacity.

(iii) Theaters, dining halls, and similar spaces having fixed seating—maximum seating capacity.

(iv) Lounges, club rooms, etc.—1 person for every 20 square feet of deck area.

(v) Working spaces—normal operating capacity.

(4) Type 1 stairways shall be dimensioned on a deck-by-deck basis as described in the previous subparagraphs. In determining the number of persons using a Type 1 stairway, all persons within the Main Vertical Zone or Zones

in question are assumed to be using Type 1 stairways. No consideration is given to any Type 2 or 3 stairways that may be available. If more than one Type 1 stairway serves a particular Main Vertical Zone, the persons shall be distributed between the stairways dependent upon the arrangements, and the stairways shall be dimensioned accordingly. If in the normal operation of the vessel, a Type 1 stairway is intended for a greater number of persons than given by the foregoing, the larger number shall be used.

(5) Types 2, 3, and 4 stairways shall be dimensioned on a deck-by-deck basis as described in this paragraph. In determining the number of persons using the stairways, the normal operation of the vessel shall be the determining factor. In this respect, if any particular stairway forms part of a normal debarkation route, the number of persons using the stairway for that purpose shall be considered.

(q) All types of stairways designed with a broken flight between any two decks shall conform to the additional requirements of this paragraph.

(1) Any interruption of the slope or change of direction of the stairway shall be accomplished by means of an intermediate landing of rectangular or nearly rectangular shape based on the actual dimensions of the stairs landing thereon.

(2) Each set of stairs of a broken flight shall be dimensioned independently, and shall conform to the minimum stair widths given in table 72.05–20(p).

(r) Landings for stairways shall be provided in accordance with the applicable requirements of this paragraph.

(1) For all types of stairways, at the top and bottom of each flight of stairs, there shall be a clear landing having an area at least equal to the square of the actual stair tread width.

(2) For Type 1 stairways, there shall be provided within the enclosure at each deck level a landing having a minimum clear area in square feet, exclusive of the stairs, equal to 1.2 times the number of persons from that deck using the stairway.

(3) Where an aisle around a stairway is required due to the relationship of the flights, such aisle shall have a clear width at all points at least equal to the actual stair tread width.

(s) The total clear width of doors to stairways shall be as set forth in table 72.05–20(s), and shall meet all of the other applicable requirements of this paragraph.

TABLE 72.05–20(s)

Type of stairway	Primary use	Minimum clear opening, in inches, of doors to stairways based on number of persons served by doors—Number of persons (*N*)					
		1–10	11–20	21–30	31–40	41–50	Over 50
1	Passenger or crew	28	30	32	34	36	[1] 0.75*N*
2 or 3	Passenger	28	30	32	34	36	36
2 or 3	Crew	28	30	30	30	30	30

[1] Obtain clear opening in inches by multiplying the number of persons served (*N*) by 0.75.

(1) The dimensioning of doors shall be based on the same fundamentals as described in paragraphs (p)(2) through (5) of this section for stairways. However, the number of people involved for a particular door shall be determined from the arrangements, each door being calculated independent of any other doors to the stairway at the same level.

(2) In no case shall a clear door width be less than 28 inches.

(3) On the Embarkation Deck, each Type 1 stairway shall provide at least 44 inches of exit door width to each side of the vessel. Exit may be provided directly to the weather or indirectly by passageways and/or corridors which lead to the weather.

§ 72.05–25 Doors, other than watertight.

(a) The general requirement for doors, other than watertight doors, are as follows:

(1) All doors shall be capable of operation from either side by 1 person.

(2) In public spaces, stairway enclosures, corridors, etc., all doors shall open in the direction of escape where practicable.

(3) If it is desired to use decorative doors in addition to those required, they shall be constructed of approved incombustible materials and shall not interfere with the normal operation of the required doors, and shall open in the same direction if the required doors are in a main avenue of escape.

(4) For the purpose of this subpart, all glass permitted in doors shall be at least ¼-inch thick. However, greater thickness may be required for strength purposes in certain locations. Except for hardwood doors permitted by paragraph (b)(8) of this section, all glass shall be fitted in steel or equivalent metal frames and shall be retained by steel or equivalent metal glazing beads or angles.

(5) Where wire-inserted glass is required, and the single wire type is employed, the strands shall run horizontally and shall be not more than 2 inches apart.

(6) Where hose ports are fitted, they shall be cut in the lower corner of the door on the side opposite the hinge so that if the hose is passed through the doorway when the door is open, it may be closed over the hose. The cut for the hose port should be approximately 6 inches square. A hinged or pivoted steel or equivalent metal cover shall be fitted in the cut, equipped with a bullet catch or similar method of fastening which will permit easy and automatic operation of the hinged cover.

(7) Combustible veneers may be used in doors where permitted for, and subject to the same conditions as, the bulkheads in which the doors are hung.

(8) The locking of doors may be permitted, except as noted in § 72.10–20.

(b) Doors in ''A'' Class bulkheads shall meet the following requirements:

(1) Doors in bulkheads required to be Class A–60, A–30, or A–15 shall be of hollow steel or equivalent metal construction solidly filled with approved structural insulation capable of meeting the requirements for a Class A–15 bulkhead.

(2) Doors in bulkheads required to be Class A–0 shall be of solid or hollow steel or equivalent metal construction capable of meeting the requirements of a Class A–0 bulkhead.

(3) Doors shall have a latch with a minimum throw of ¾ inch which can be operated from either side of the door. Double swing doors, where permitted for the proper utility of the space, may have the latch normally inoperative.

(4) Except as noted in paragraph (b)(8) of this section, doors may be fitted with not more than 100 square inches of glass, which shall be of the wire inserted type.

(5) Vent grilles or louvers shall not be used in doors of this type.

(6) The bottoms of doors may be undercut not to exceed ½ inch above the door sill or top of approved deck covering. Rugs, and carpets, shall not pass through doorways, but linoleum and similar coverings may do so.

(7) Door frames shall be of rigid construction, and shall provide at least a ½ inch door stop at the sides and top, except:

(i) Double doors capable of independent operation and latching may have a clearance between the doors not to exceed ⅛ inch. However, if one door must always be closed first, a doorstop of at least ½ inch shall be provided for the second door.

(ii) Double swing doors, where permitted, may have a maximum clearance of ⅛ inch at the tops and sides.

(8) Doors opening out onto open decks shall either meet the applicable requirements of this paragraph, or they may be of hardwood having a minimum thickness of 1¾ inches. In any case, no restriction as to the area of glass will be made for such doors insofar as this subpart is concerned. Only glass of the wire-inserted type may be fitted in such doors opening onto safety areas from accommodation spaces containing combustible type furniture and service, cargo, and machinery spaces.

(9) Doors in stairway enclosures and Main Vertical Zone bulkheads shall, in addition to meeting the requirements of this paragraph, also meet the following requirements:

(i) Doors, other than those which are normally locked, such as from staterooms, fan rooms, lockers, etc., shall be of the self-closing type capable of closing against a 3½ degree list, and

such doors shall be numbered in accordance with § 78.47–35 of this subchapter.

(ii) All doors, except those that are kept normally closed, shall be of a type which are capable of release from the control station and from a position at the door. The release mechanism shall be so designed that the door will automatically close in the event of disruption to the control system; however, approved power operated watertight doors will be considered acceptable for this purpose. Holdback hooks, or other means of permanently holding the door open, not subject to control station release, will not be permitted. When double swing doors are permitted, they shall have a latch arrangement which is automatically engaged by the operation of the door release system.

(iii) Double doors shall be so arranged that either door may be closed and latched independently.

(iv) For additional requirements for stairway doors, see § 72.05–20(s).

(c) Doors in ''B'' Class bulkheads shall meet the following requirements:

(1) Doors may be of solid or hollow steel or equivalent metal construction or may be of steel or equivalent metal frame with glass panes or may be of approved incombustible materials of such construction as specifically approved by the Commandant.

(2) No restriction as to the area of glass will be made for such doors, but all glass shall be of the wire-inserted type.

(3) The lower half of such doors may contain vent grilles or louvers with a net area not to exceed 2 square feet.

(4) Doors shall have a latch with a minimum throw of ⅜ inch which can be operated from either side of the door. Double swing doors, where permitted for the proper utility of the space, may have the latch normally inoperative.

(5) The bottoms of doors may be undercut not to exceed 1 inch above the door sill or top of approved deck covering. Rugs and carpets shall not pass through doorways but linoleum and similar covering may do so.

(6) Door frames shall be of rigid construction, and shall provide at least a ½ inch doorstop at the sides and top, except:

(i) Double doors capable of independent operation and latching may have a clearance between the doors not to exceed ⅛ inch. However, if one door must always be closed first, a door stop of at least ½ inch shall be provided for the second door.

(ii) Double swing doors, where permitted, may have a maximum clearance of ⅛ inch at the tops and sides.

(d) Doors in bulkheads required to be Class C shall be of approved incombustible materials.

§ 72.05–30 Windows and airports.

(a) For the purpose of this subpart, all glass in windows or airports shall be at least ¼ inch thick. However, greater thickness may be required for strength purposes in certain locations. All glass shall be fitted in steel or equivalent metal frames and shall be retained by steel or equivalent metal glazing beads or angles.

(b) Where wire-inserted glass is required, and the single wire type is employed, the strands shall run horizontally and shall be not more than 2 inches apart.

(c) Windows in Class B–0 bulkheads shall be fitted with wire inserted glass. Such windows opening onto passageways may not extend below the normal height of the storm rails.

(d) Windows in Class B–15 bulkheads shall be fitted with wire inserted glass. In addition, such windows shall be fitted with a suitable steel or equivalent metal shutter capable of being operated manually as well as automatically by means of a fusible link.

(e) Windows in interior ''A'' Class bulkheads shall be fitted with suitable steel or equivalent metal shutter capable of being operated manually as well as automatically from the control station by the same system used for the fire doors as noted in § 72.05–25(b)(9)(ii). The metal shutter shall be insulated to meet the applicable bulkhead requirements.

(f) Windows or air ports opening onto lifeboat embarkation or lowering spaces from service, cargo, or machinery spaces, or from control or accommodation spaces other than those containing only incombustible veneers and trim and fire resistant furnishings, shall be fitted with wire inserted glass.

Other windows or air ports opening onto open decks or enclosed promenades need not have wire inserted glass.

(g) Skylights to spaces containing auxiliary internal combustion machinery having an aggregate horsepower of 1,000 or more, and to boiler and main enginerooms, shall be capable of being closed from outside the space. If glass is fitted in such skylights, it shall be of the wire inserted type. The glass panels shall be fitted with permanently attached shutters of steel or equivalent metal.

§ 72.05–35 Hatch covers and shifting boards.

(a) Wood hatch covers may be used between cargo spaces. Hatch covers in other locations shall meet the requirements for deck construction noted in tables 72.05–10 (f) and (g).

(b) Tonnage openings in ''A'' Class bulkheads shall be closed by means of steel plates.

§ 72.05–40 Insulation, other than for structural fire protection.

(a) Any insulation installed for heat and comfort, refrigeration (including air conditioning), or for any other purpose, and all material incidental to its installation, shall be approved Incombustible Materials. This paragraph shall not apply to such insulation installed in cargo spaces, refrigerated storerooms, individual refrigerator boxes, nor to pipe and machinery coverings or laggings within the machinery spaces.

(b) [Reserved]

§ 72.05–45 Paint.

(a) An excessive number of coats of paint will be discouraged unless noncombustible paint is used.

(b) Nitrocellulose or other highly flammable or noxious fume-producing paints or lacquers shall not be used.

§ 72.05–50 Ventilation.

(a) Where the term *duct* is used in this section, it shall include trunks, plenums, and any other type of ventilation piping, chambers, or duct work.

(b) Where automatic fire dampers are required, they shall be designed to operate at approximately 165 degrees F. for normal locations, and approximately 212 degrees F. for locations such as galleys. The dampers shall be so designed as to close against the anticipated draft in the duct. The damper shall be made accessible for periodic inspection by means of a hinged or bolted plate in the duct. The damper and the portion of duct containing the damper shall be constructed of at least ⅛ inch steel plate suitably stiffened. No insulation need be applied to the damper blade.

(c) Where ventilation ducts are required to meet bulkhead requirements, the space within the duct shall be considered to be the same as the space served by the ventilator, and the duct shall be insulated to meet the applicable requirements of tables 72.05–10(d) and 72.05–10(e).

(d) All ventilation systems shall be designed, where practicable, so that all ducts leading to the various enclosures are kept within the main vertical zones. No duct may serve spaces in more than one main vertical zone.

(e) Where of necessity, ducts pass through main vertical zone bulkheads, automatic fire dampers shall be fitted adjacent to the bulkhead. The duct between the bulkhead and the damper shall meet the applicable bulkhead requirements. The damper shall be fitted on at least one side of the bulkhead with a visible indicator showing whether the damper is in the open or closed position. The indicator may be connected to the manual operating device rather than the damper blade so that it might show as being open when it had automatically closed, but could never be open if the indicator showed it to be closed. The damper shall be capable of being manually closed from both sides of the bulkhead. The operating positions for the damper shall be marked as required by § 78.47–53 of this subchapter.

(f) Vent ducts serving stairway enclosures shall serve no other spaces.

(g) Ventilation ducts serving cargo or main machinery spaces which pass through accommodation spaces or safety areas shall be fitted with an automatic fire damper adjacent to the point of entry. Between the bulkhead or deck and the damper, and in addition, on vertical ducts for a distance of

6 feet above the damper, the duct shall meet the applicable bulkhead requirements.

(h) Exhausts from galleys shall meet the applicable bulkhead requirements. In addition, an automatic damper shall be installed in exhaust ducts over frying vats, etc.

(i) In all ventilation systems, manually operated dampers or other suitable means shall be provided in accessible locations, outside the spaces served by the system, for shutting off the passage of air in the event of fire; however, no dampers shall be placed in exhaust ducts from film lockers or projection rooms.

(j) For information regarding controls of electrically powered ventilation systems, see subchapter J (Electrical Engineering) of this chapter.

§ 72.05–55 Furniture and furnishings.

(a) For the purpose of this subpart, rooms containing ''fire resistant furnishings'' will be considered to be those in which:

(1) All case furniture such as desks, wardrobes, dressing tables, bureaus, dressers, etc., shall be constructed entirely of approved incombustible materials; except that a combustible veneer not exceeding ⅛ inch may be used on the top surface of such articles.

(2) All free standing furniture such as chairs, sofas, tables, etc., shall be constructed with frames of approved incombustible materials.

(3) All draperies shall be of approved fire resistant fabrics.

(4) All rugs and carpets shall be of wool or other material having equivalent fire resistive qualities.

(b) Waste paper baskets shall be constructed of approved incombustible materials with solid sides and bottoms.

(c) Passageways and stairway enclosures shall contain only fire resistant furnishings. In addition, all upholstery and padding of chairs, sofas, etc., in these areas, shall be of approved fire resistant materials.

§ 72.05–90 Vessels contracted for prior to May 26, 1965.

(a) Vessels of 100 gross tons and over, contracted for prior to May 26, 1965, on an international voyage; and vessels of 100 gross tons and over, contracted for on or after May 28, 1936, and prior to May 26, 1965, not on an international voyage; shall meet the following requirements:

(1) Existing structure, arrangements, and materials previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction.

(2) The details shall be in general agreement with §§ 72.05–5 through 72.05–60.

(b) Vessels of 100 gross tons and over, contracted for prior to May 28, 1936, not on an international voyage, shall meet the following requirements:

(1) Existing structure, arrangements, and materials previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction.

(2) All vessels in ocean or coastwise service shall be fitted above the bulkhead deck with fire-resisting bulkheads and doors spaced not more than 131 feet apart which are capable of resisting the passage of flame for a period of at least 1 hour.

(3) All vessels with berth or stateroom accommodations for 50 or more passengers shall be fitted with an approved automatic sprinkling system unless deemed unnecessary by the Commandant. This system shall be so installed as to protect all enclosed parts of the vessel accessible to passengers or crew while the vessel is being navigated, except cargo holds, machinery spaces, and when of fire-resisting construction, toilets, bathrooms, and spaces of similar construction. Where, in the case of a particular vessel, the Commandant does not consider the installation of an automatic water-sprinkling system necessary, such vessel shall be protected in such enclosed parts of the vessel as the Commandant shall deem necessary, with an automatic electric or pneumatic fire-

detecting and alarm system, used singly or in combination, of a type approved by the Commandant.

(c) Vessels of less than 100 gross tons, contracted for prior to May 26, 1965, which carry more than 150 passengers, shall meet the following requirements:

(1) Existing structure, arrangements, and materials previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction.

(2) For such vessels, contracted for on or after November 19, 1952, and prior to May 26, 1965, on an international voyage, the details shall be in general agreement with §§ 72.05–5 through 72.05–60.

[CGFR 67–87, 32 FR 19180, Dec. 20, 1967]

Subpart 72.10—Means of Escape

§ 72.10–1 Application.

(a) The provisions of this subpart, with the exception of § 72.10–90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 72.10–90.

(b) [Reserved]

§ 72.10–5 Two means required.

(a) There shall be at least two means of escape from all general areas accessible to the passengers or where the crew may be quartered or normally employed. At least one of these two means of escape shall be independent of watertight doors. For stairway continuity and general requirements for stairways see § 72.05–20.

(b) Elevators shall not be considered as one of the required means of escape.

(c) Stairways serving only a space and a balcony to a space shall not be considered as one of the required means of escape.

[CGFR 65–50, 30 FR 16903, Dec. 30, 1965, as amended by CGD 72–104R, 37 FR 14233, July 18, 1972]

§ 72.10–10 Location.

(a) The two means of escape shall be as remote as practicable so as to minimize the possibility of one incident blocking both escapes.

(b) [Reserved]

§ 72.10–15 Vertical ladders not acceptable.

(a) Vertical ladders and deck scuttles shall not in general be considered satisfactory as one of the required means of escape. However, where it is demonstrated that the installation of a stairway would be impracticable, a vertical ladder may be used as the second means of escape.

(b) [Reserved]

§ 72.10–20 No means for locking door.

(a) No means shall be provided for locking doors giving access to either of the 2 required means of escape, except that crash doors or locking devices, capable of being easily forced in an emergency, may be employed provided a permanent and conspicuous notice to this effect is attached to both sides of the door. This paragraph shall not apply to outside doors to deckhouses where such doors are locked by key only and such key is under the control of one of the vessel's officers.

(b) [Reserved]

§ 72.10–25 Stairway size.

(a) Stairways shall be of sufficient width to satisfactorily accommodate the number of persons having access to such stairs for escape purposes.

(b) [Reserved]

§ 72.10–30 Dead end corridors.

(a) Dead end corridors, or the equivalent, more than 40 feet in length shall not be permitted.

(b) [Reserved]

§ 72.10–35 Public spaces.

(a) In all cases, public spaces having a deck area of over 300 square feet shall have at least two exits. Where practicable, these exits shall give egress to different corridors, rooms, or spaces to minimize the possibility of one incident blocking both exits.

(b) [Reserved]

§ 72.10–40 Access to lifeboats.

(a) The stairways, corridors, and doors shall be so arranged as to permit a ready and direct access to the various lifeboat embarkation areas.

(b) [Reserved]

§ 72.10–45 Weather deck communications.

(a) Vertical communication shall be provided between the various weather decks by means of permanent inclined ladders. Where ladders are for the exclusive use of the crew for rapid communication, and do not form part of a normal escape route, vertical ladders may be employed.

(b) [Reserved]

§ 72.10–90 Vessels contracted for prior to November 19, 1952.

(a) Existing arrangements previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original design provided that in no case will a greater departure from the standards of §§ 72.10–5 through 72.10–45 be permitted than presently exists. Nothing in this paragraph shall be construed as exempting any vessel from having 2 suitable means of escape from all main compartments which are accessible to the passengers or where the crew are normally quartered or employed.

(b) [Reserved]

Subpart 72.15—Ventilation

§ 72.15–1 Application.

(a) The provisions of this subpart with the exception of § 72.15–90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 72.15–90.

(b) [Reserved]

§ 72.15–5 Structural fire protection.

See § 72.05–50 for ventilation requirements pertaining to structural fire protection.

[CGD 72–104R, 37 FR 14233, July 18, 1972]

§ 72.15–10 Vessels using fuel having a flashpoint of 110 degrees F. or lower.

(a) Where liquid fuel having a flashpoint of 110 degrees F. or lower is used for main or auxiliary machinery or for starting purposes, the spaces containing such machinery or fuel tanks shall have natural supply and mechanical ventilation as required by this section.

(b) The requirements for the mechanical exhaust system shall be such as to assure the air changes as noted in table 72.15–10(b), depending upon the size of the space.

TABLE 72.15–10(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 of the explosion proof type. Blower blades shall be non-sparking 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 ignition switch so that the blowers are started before the engine ignition is switched on. 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 1 dimension exceed twice the other.

(f) At least 2 inlet ducts shall be located at 1 end of the compartment and they shall extend to the lowest part of the compartment or bilge on each side. Simliar 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.

(g) All ducts shall be constructed of non-ferrous metal or galvanized ferrous metal not less than No. 22 USSG, intact and gastight from end to end and shall be of substantial construction. 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.

§ 72.15–15 Ventilation for closed spaces.

(a) All enclosed spaces within the vessel shall be properly vented or ventilated. Means shall be provided to close off all vents and ventilators.

(b) Means shall be provided for stopping all fans in ventilation systems serving machinery and cargo spaces and for closing all doorways, ventilators and annular spaces around funnels and other openings to such spaces, from outside these spaces, in case of fire.

(c) The ventilation of spaces which are ''specially suitable for vehicles'' shall be in accordance with the provisions of this paragraph. In addition, if vehicles are operated inside of enclosed spaces, the ventilation shall be in accordance with subpart 78.83 of this subchapter.

(1) Areas below the weather deck shall be provided with continuous pressure-positive ventilation at each level on which vehicles are transported.

(2) The quantity of ventilating air shall be not less than 1 cubic foot per minute per square foot of deck area.

(3) The ventilation shall be such as to prevent air stratification as well as to prevent accumulation of air pockets.

(4) An alarm system shall be provided which will indicate the loss of required ventilation. The alarm location shall be in a normally manned space acceptable to the Commandant.

[CGFR 66–50, 30 FR 16903, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15281, Dec. 6, 1966]

§ 72.15–20 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.

(b) On vessels of 100 gross tons and over, except for such spaces as are so located that under all ordinary conditions of weather, windows, ports, skylights, etc., and doors to passageways can be kept open, all crew spaces shall be ventilated by a mechanical system, unless it can be shown that a natural system will provide adequate ventilation. However, vessels which trade regularly in the tropics shall, in general, be fitted with a mechanical ventilation system.

§ 72.15–90 Vessels contracted for prior to November 19, 1952.

(a) Existing arrangements previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original design provided that in no case will a greater departure from the standards of §§ 72.15–5 through 72.15–20 be permitted than presently exists.

(b) [Reserved]

Subpart 72.20—Accommodations for Officers and Crew

SOURCE: CGD 95-027, 61 FR 26002, May 23, 1996, unless otherwise noted.

§ 72.20–1 Application.

The provisions of this part, except § 72.20–90, apply to all vessels contracted for after November 18, 1952. Vessels contracted for before November

19, 1952, must meet the requirements of § 72.20–90.

§ 72.20–5 Intent.

Accomodations provided for officers and crew on all vessels shall be securely constructed, properly lighted, heated, drained, ventilated, equipped, located, arranged, and insulated from undue noise, heat, and odors.

§ 72.20–10 Location of crew spaces.

(a) Crew quarters must not be located farther forward in the vessel than a vertical plane located at 5 percent of the vessel's length abaft the forward side of the stem at the designed summer load water line. However, for vessels in other than ocean or coastwise service, this distance need not exceed 8.5 meters (28 feet). For the purpose of this paragraph, the vessel's length must be as defined in § 43.15–1 of subchapter E (Load Lines) of this chapter. Unless approved by the Commandant, no section of the deck head of the crew spaces may be below the deepest load line.

(b) There must be no direct communication, except through solid, close fitted doors or hatches between crew spaces and chain lockers, or machinery spaces.

§ 72.20–15 Construction.

All crew spaces are to be constructed and arranged in a manner suitable to the purpose for which they are intended and so that they can be kept in a clean, workable, and sanitary condition.

§ 72.20–20 Sleeping accommodations.

(a) Where practicable, each licensed officer shall be provided with a separate stateroom.

(b) Sleeping accommodations for the crew must be divided into rooms, no one of which shall berth more than 4 persons.

(c) Each room shall be of such size that there is at least 2.78 square meters (30 square feet) of deck area and a volume of at least 5.8 cubic meters (210 cubic feet) for each person accommodated. The clear head room shall be not less than 190 centimeters (75 inches). In measuring sleeping accommodations any furnishings contained therein for the use of the occupants are not to be deducted from the total volume or from the deck area.

(d) Each person shall have a separate berth and not more than one berth may be placed above another. The berth must be composed of materials not likely to corrode. The overall size of a berth must not be less than 68 centimeters (27 inches) wide by 190 centimeters (75 inches) long, except by special permission of the Commandant. Where two tiers of berths are fitted, the bottom of the lower berth must not be less than 30 centimeters (12 inches) above the deck. The berths must not be obstructed by pipes, ventilating ducts, or other installations.

(e) A locker must be provided for each person accommodated in a room.

§ 72.20–25 Washrooms and toilet rooms.

(a) There must be at least 1 toilet, 1 washbasin, and 1 shower or bathtub for each 8 members or portion thereof in the crew who do not occupy sleeping accommodations to which private or semi-private facilities are attached.

(b) The toilet rooms and washrooms shall be located convenient to the sleeping quarters of the crew to which they are allotted but must not open directly into such quarters except when they are provided as private or semi-private facilities.

(c) All washbasins, showers, and bathtubs must be equipped with adequate plumbing, including hot and cold running water. All toilets must be installed with adequate plumbing for flushing.

(d) At least 1 washbasin must be fitted in each toilet room, except where private or semi-private facilities are provided and washbasins are installed in the sleeping rooms.

(e) Where more than 1 toilet is located in a space or compartment, each toilet must be separated by partitions.

§ 72.20–30 Messrooms.

(a) Messrooms must be located as near to the galley as practicable except where the messroom is equipped with a steam table.

(b) Each messroom must seat the number of persons expected to eat in the messroom at one time.

§ 72.20–35 Hospital space.

(a) Each vessel which in the ordinary course of its trade makes voyages of more than 3 days duration between ports and which carries a crew of 12 or more, must be provided with a hospital space. This space must be situated with due regard to the comfort of the sick so that they may receive proper attention in all weathers.

(b) The hospital must be suitably separated from other spaces and must be used for the care of the sick and for no other purpose.

(c) The hospital must be fitted with berths in the ratio of 1 berth to every 12 members of the crew, or portion thereof, who are not berthed in single occupancy rooms, but the number of berths need not exceed 6.

(d) The hospital must have a toilet, washbasin, and bathtub or shower conveniently situated. Other necessary suitable equipment such as a clothes locker, a table, and a seat must be provided.

§ 72.20–40 Other spaces.

Each vessel must have—

(a) Sufficient facilities where the crew may wash and dry their own clothes, including at least 1 sink supplied with hot and cold fresh water;

(b) Recreation spaces; and

(c) A space or spaces of adequate size on an open deck to which the crew has access when off duty.

§ 72.20–45 Lighting.

Each berth must have a light.

§ 72.20–50 Heating and cooling.

(a) All manned spaces must be adequately heated and cooled in a manner suitable to the purpose of the space.

(b) The heating and cooling system for accommodations must be capable of maintaining a temperature of 21 °C (70 °F) under normal operating conditions without curtailing ventilation.

(c) Radiators and other heating apparatus must be so placed and shielded, where necessary, to avoid risk of fire, danger or discomfort to the occupants. Pipes leading to radiators or heating apparatus must be insulated where those pipes create a hazard to persons occupying the space.

§ 72.20–55 Insect screens.

Provisions must be made to protect the crew quarters against the admission of insects.

§ 72.20–90 Vessels contracted for prior to November 19, 1952.

(a) Vessels of 100 gross tons and over, contracted for prior to March 4, 1915, must meet the requirements of this paragraph.

(1) Existing structure, arrangements, materials, and facilities, previously approved will be considered satisfactory so long as they are maintained in a suitable condition to the satisfaction of the Officer in Charge, Marine Inspection.

(2) Minor repairs and alterations may be made to the same standard as the original construction provided that in no case will a greater departure from the standards of §§ 72.20–5 through 72.20–55 be permitted than presently exists.

(b) Vessels of 100 gross tons and over, contracted for on or after March 4, 1915, but prior to January 1, 1941, must meet the following requirements:

(1) Existing structure, arrangements, materials, and facilities, previously accepted or approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original construction.

(2) Where reasonable and practicable, a minimum of 1 toilet, shower, and washbasin must be provided for each 10 members of the crew or fraction thereof.

(3) Crew spaces must have a volume of at least 3.4 cubic meters (120 cubic feet) and a deck area of at least 1.5 square meters (16 square feet) for each person accommodated.

(4) Each crewmember shall have a separate berth, and berths may not be placed more than 2 high.

(5) Each vessel, which in the ordinary course of its trade makes a voyage of more than 3 days duration between ports and which carries a crew of 12 or more persons, must be provided with a suitable hospital space for the exclusive use of the sick or injured. Berths must be provided in the ratio of 1 berth for each 12 members of the crew or

fraction thereof, but the number of berths need not exceed 6.

(6) The crew spaces must be securely constructed, properly lighted, heated, drained, ventilated, equipped, located, and arranged, and, practicable, must be insulated from undue noise and odors.

(c) Vessels of 100 gross tons and over, contracted for on or after January 1, 1941, but prior to November 19, 1952, must meet the requirements of this paragraph.

(1) Existing structure, arrangements, materials, and facilities, previously accepted or approved will be considered satisfactory so long as they are maintained in a good condition to the satisfaction of the Office in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original construction.

(2) There must be a minimum of 1 toilet, 1 shower, and 1 washbasin for each 8 members of the crew or fraction thereof who are not accommodated in rooms having attached private or semiprivate facilities. Washbasins, showers, and bathtubs, if substituted for showers, must be equipped with adequate plumbing, including hot and cold running water.

(3) Crew spaces must have a volume of at least 3.4 cubic meters (120 cubic feet) and a deck of at least 1.5 square meters (16 square feet) for each person accommodated.

(4) Each crewmember shall have a separate berth, and berths may not be placed more than two high.

(5) Each vessel, which in the ordinary course of its trade makes a voyage of more than 3 days duration between ports and which carries a crew of 12 or more persons, must be provided with a suitable hospital space for the exclusive use of the sick or injured. Berths must be provided in the ratio of 1 berth for each 12 members of the crew or fraction thereof, but the member of berths need not exceed 6.

(6) The crew spaces must be securely constructed, properly lighted, heated, drained, ventilated, equipped, located, and arranged, and, where practicable, must be insulated from undue noise heat, and odors.

[CGD 95–027, 61 FR 26002, May 23, 1996; 61 FR 35138, July 5, 1996]

Subpart 72.25—Passenger Accommodations

§ 72.25–1 Application.

(a) The provisions of this subpart shall apply to all vessels.

(b) [Reserved]

§ 72.25–10 Location of passenger quarters.

(a) The deck forming the deckhead of passenger quarters between adjacent watertight bulkheads shall not be below the deepest load line at any point within the watertight compartment in question.

(b) [Reserved]

§ 72.25–15 Passenger accommodations for excursion boats, ferryboats, and passenger barges.

(a) Except as specifically excluded by this section, separate public toilet spaces shall be provided for male and female passengers with at least the minimum equipment in each based upon the number of passengers permitted to be carried as set forth in table 72.25–15(a).

TABLE 72.25–15(a)

Number of passengers		Toilets	Wash-basins
Over	Not over		
.....	100	1	1
100	300	2	1
300	500	3	2
500	1,000	4	2
1,000	1,500	5	3
1,500	2,000	6	3
2,000	2,500	7	4
2,500	3,000	8	4
3,000	3,500	9	5
3,500	4,000	10	5
4,000	.....	(1)	(1)

1 Additional facilities by extrapolation.

(b) In the men's spaces, urinals may be substituted for toilets, provided at least one-half the required toilets are fitted.

(c) On ferryboats and barges having a short run, passenger toilet facilities need not be fitted.

Subpart 72.30—Subdivision and Stability

§ 72.30–1 Application.

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

[CGD 79–023, 48 FR 51007, Nov. 4, 1983]

Subpart 72.40—Rails and Guards

§ 72.40–1 Application.

(a) The provisions of this subpart, with the exception of § 72.40–90, shall apply to all vessels contracted for on or after July 1, 1969. Vessels contracted for prior to July 1, 1969, shall meet the requirements of § 72.40–90.

(b) [Reserved]

[CGFR 65–50, 30 FR 16903, Dec. 30, 1965, as amended by CGFR 69–72, 34 FR 17483, Oct. 29, 1969]

§ 72.40–5 Where rails required.

(a) All passenger vessels shall have efficient guard rails or bulwarks on decks and bridges as follows: The height of rails or bulwarks shall be at least 39½ inches from the deck. At the peripheries of the freeboard and superstructure decks and at the peripheries of all decks accessible to passengers, rails shall be in at least three courses including the top. The opening below the lowest course shall not be more than 9 inches. The courses shall not be more than 15 inches apart. In the case of ships with rounded gunwales the guard rail supports shall be placed on the flat of the deck. On other decks and bridges the rails shall be in at least two courses, including the top, approximately evenly spaced.

(b) Where the height of the rails interferes with the business of the vessel, as in the case of a sport fishing vessel, other arrangements may be specifically approved by the Commandant. However, in general, the effective rail or bulwark height above the deck on which the passengers stand shall be at least 30 inches.

(c) On the passenger decks of ferryboats, excursion vessels, and vessels of a similar type, the space below the top of the rail shall be fitted with suitable wire mesh or the equivalent. Depending upon the type of construction, the lower rail courses may not be required.

(d) Where it can be shown to the satisfaction of the Commandant that a vessel is engaged exclusively in voyages of a sheltered nature, the provisions of paragraph (a) of this section may be relaxed.

[CGFR 69–72, 34 FR 17483, Oct. 29, 1969]

§ 72.40–10 Storm rails.

(a) Suitable storm rails shall be installed in all passageways and at the deckhouse sides where passengers or crew might have normal access. Storm rails shall be installed on both sides of passageways which are 6 feet or more in width.

(b) [Reserved]

§ 72.40–15 Vehicular ferries.

(a) On vehicular ferries, suitable chains, cables, 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.

(b) [Reserved]

§ 72.40–20 Guards in dangerous places.

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

(b) [Reserved]

§ 72.40–90 Vessels contracted for prior to July 1, 1969.

(a) Passenger vessels contracted for prior to July 1, 1969, assigned a deeper load line under part 42 of subchapter E (Load Lines) of this chapter shall have efficient guard rails or bulwarks as required by § 72.40–5. Otherwise, existing structure, arrangements, materials, and facilities previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction provided that in no case will greater departure from the standards of §§ 72.40–5 through 72.40–20 be permitted than presently exists.

(b) [Reserved]

[CGFR 69–72, 34 FR 17483, Oct. 29, 1969]

PART 76—FIRE PROTECTION EQUIPMENT

Subpart 76.01—Application

Sec.
76.01–1 General.
76.01–2 Incorporation by reference.
76.01–5 Equipment installed but not required.

Subpart 76.05—Fire Detecting and Extinguishing Equipment, Where Required

76.05–1 Fire detecting systems.
76.05–5 Manual alarm system.
76.05–10 Supervised patrol system.
76.05–15 Fire main system.
76.05–20 Fixed fire extinguishing systems.
76.05–25 Hand portable fire extinguishers and semiportable fire extinguishing systems.

Subpart 76.10—Fire Main System, Details

76.10–1 Application.
76.10–3 Water availability.
76.10–5 Fire pumps.
76.10–10 Fire station hydrants, hose and nozzles—T/All.
76.10–15 Piping.
76.10–90 Installations contracted for prior to May 26, 1965.

Subpart 76.13—Steam Smothering Systems

76.13–1 Application.
76.13–90 Installations contracted for prior to January 1, 1962.

Subpart 76.15—Carbon Dioxide Extinguishing Systems, Details

76.15–1 Application.
76.15–5 Quantity, pipe sizes, and discharge rate.
76.15–10 Controls.
76.15–15 Piping
76.15–20 Carbon dioxide storage.
76.15–25 Discharge outlets.
76.15–30 Alarms.
76.15–35 Enclosure openings.
76.15–40 Pressure relief.
76.15–90 Installations contracted for prior to November 19, 1952.

Subpart 76.17—Foam Extinguishing Systems, Details

76.17–1 Application.
76.17–5 Quantity of foam required.
76.17–10 Controls.
76.17–15 Piping.
76.17–20 Discharge outlets.
76.17–25 Additional protection required.
76.17–90 Installations contracted for prior to November 19, 1952.

Subpart 76.23—Manual Sprinkling System, Details

76.23–1 Application.
76.23–5 Zoning.
76.23–10 Quantity, pipe sizes, and discharge rates.
76.23–15 Controls.
76.23–20 Piping.
76.23–25 Sprinkler heads.
76.23–90 Installations contracted for prior to November 19, 1952.

Subpart 76.25—Automatic Sprinkling System, Details

76.25–1 Application.
76.25–5 Zoning.
76.25–10 Size and arrangement of sprinkler heads and pipe sizes.
76.25–15 Pumps and water supply.
76.25–20 Pressure tank.
76.25–25 Controls.
76.25–30 Piping.
76.25–35 Operation and installation.
76.25–90 Installations contracted for prior to September 30, 1997.

Subpart 76.27—Electric Fire Detecting System, Details

76.27–1 Application.
76.27–5 Zoning.
76.27–10 Location and spacing of detectors.
76.27–15 Operation and installation.
76.27–90 Installations contracted for prior to November 19, 1952.

Subpart 76.30—Pneumatic Fire Detecting System, Details

76.30–1 Application.
76.30–5 Zoning.
76.30–10 Location and spacing of tubing.
76.30–15 Operation and installation.
76.30–90 Installations contracted for prior to November 19, 1952.

Subpart 76.33—Smoke Detecting System, Details

76.33–1 Application.
76.33–5 Zoning.
76.33–10 Location and spacing of accumulators.
76.33–15 Piping.
76.33–20 Operation and installation.
76.33–90 Installations contracted for prior to November 19, 1952.

Subpart 76.35—Manual Alarm System, Details

76.35–1 Application.
76.35–5 Zoning.
76.35–10 Location and spacing of manual alarm boxes.
76.35–15 Operation and installation.
76.35–90 Installations contracted for prior to November 19, 1952.

Subpart 76.50—Hand Portable Fire Extinguishers and Semiportable Fire Extinguishing Systems, Arrangements and Details

76.50–1 Application.
76.50–5 Classification.
76.50–10 Location.
76.50–15 Spare charges.
76.50–20 Semiportable fire extinguishers.
76.50–90 Vessels contracted for prior to November 19, 1952.

Subpart 76.60—Fire Axes

76.60–1 Application.
76.60–5 Number required.
76.60–10 Location.

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

SOURCE: CGFR 65–50, 30 FR 16940, Dec. 30, 1965, unless otherwise noted.

Subpart 76.01—Application

§ 76.01–1 General.

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

(b) [Reserved]

§ 76.01–2 Incorporation by reference.

(a) Certain material is 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 that specified in paragraph (b) of this section, the Coast Guard must publish notice of change in the FEDERAL REGISTER and make the material 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, Office of Design and Engineering Standards (G–MSE), 2100 Second Street SW., Washington, DC 20593–0001 and is available from the sources indicated in paragraph (b) of this section.

(b) The material approved for incorporation by reference in this part and the sections affected are:

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

ASTM F 1121–87 (1993), Standard Specification for International Shore Connections for Marine Fire Applications—76.10–10

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

1 Batterymarch Park, Quincy, MA 02269–9101

NFPA 13–1996, Standard for the Installation of Sprinkler Systems—76.25–1

[CGD 88–032, 56 FR 35824, July 29, 1991; 57 FR 31947, July 20, 1992, as amended by CGD 95–072, 60 FR 50463, Sept. 29, 1995; CGD 96-041, 61 FR 50729, Sept. 27, 1996; CGD 97–057, 62 FR 51045, 51204, Sept. 30, 1997; USCG–1999–5151, 64 FR 67181, Dec. 1, 1999]

§ 76.01–5 Equipment installed but not required.

(a) Where fire detecting or extinguishing systems or equipment are not required, but are installed, the system or equipment and its installation shall meet the requirements of this part.

(b) [Reserved]

Subpart 76.05—Fire Detecting and Extinguishing Equipment, Where Required

§ 76.05–1 Fire detecting systems.

(a) Approved fire detecting systems shall be installed in locations as required by table 76.05–1(a) on the following vessels:

(1) Any vessel on an international voyage.

(2) Any vessel of more than 150 feet in length having sleeping accommodations for passengers.

TABLE 76.05–1(a)

Space	Detecting systems	Fixed extinguishing systems
Safety areas		
Wheelhouse or fire-control room	None required [1]	None required [1]
Stairway and elevator enclosures	do [1]	Do.[1]
Communication corridors	do [1]	Do.[1]
Lifeboat embarkation and lowering stations	do	Do.
Radio room	do [1]	Do.[1]
Accommodations		
Staterooms, toilet spaces, isolated pantries, etc	do [1]	Do.[1]
Offices, lockers, and isolated storerooms	Electric, pneumatic, or automatic sprinkling[1]	Do.[1]
Public spaces	None required with 20-minute patrol. Electric, pneumatic, or automatic sprinkling with 1 hour patrol[1].	Do.[1]
Open decks or enclosed promenades	None required	Do.
Service spaces		
Galleys	do [1]	Do.[1]
Main pantries	do [1]	Do.[1]
Motion picture booths and film lockers	Electric, pneumatic, or automatic sprinkling[1 2].	Do.[1 2]
Paint and lamp rooms	Smoke detecting [3]	Carbon dioxide. [4]
Inaccessible baggage, mail, and specie rooms and storerooms.	Smoke detecting [3]	Carbon dioxide. [4]
Accessible baggage, mail, and specie rooms and storerooms.	Electric, pneumatic, or automatic sprinkling.	None required. [1]
Refrigerated storerooms	None required	Do.
Carpenter, valet, photographic, and printing shops, sales rooms, etc.	Electric, pneumatic, or automatic sprinkling.	Do.[1]
Machinery spaces		
Coal fired boilers: Bunker and boiler space	None required	Do.[1]
Oil fired boilers: Spaces containing oil fired boilers either main or auxiliary, their fuel oil service pumps, and/or such other fuel oil units as the heaters, strainers, valves, manifolds, etc., that are subject to the discharge pressure of the fuel oil service pumps, together with adjacent spaces to which oil can drain.	do	Carbon dioxide or foam.[5]
Internal combustion or gas turbine propelling machinery spaces.	do	Carbon dioxide.[6]
Electric propulsive motors or generators of open type	do	None required.
Enclosed ventilating systems for motors and generators of electric propelling machinery.	do	Carbon dioxide (in ventilating system) [7]
Auxiliary spaces, internal combustion or gas turbine	do	Carbon dioxide.[8]
Auxiliary spaces, electric motors or generators	do	None required.
Auxiliary spaces, steam	do	Do.
Trunks to machinery spaces	do	Do.
Fuel tanks	do	Do.[9]
Cargo spaces		
Inaccessible during voyage (combustible cargo), including trunks (excluding tanks).	Smoke detecting	Carbon dioxide.[4]
Accessible during voyage (combustible cargo)	Smoke detecting, electric, pneumatic or automatic sprinkling.	Automatic or manual sprinkling.
Vehicular deck (except where no overhead deck is 30 feet in length or less).	None required	Manual sprinkling.
Cargo oil tanks	do	Carbon dioxide or foam.[4]
Specially suitable for vehicles	Smoke detecting, electric, pneumatic or automatic sprinkling.	Carbon dioxide, automatic or manual sprinkling.

[1] Vessels of 100 gross tons and over contracted for on or before May 27, 1936, and having combustible joiner work; shall be fitted with an automatic sprinkling system, except in relatively incombustible spaces.
[2] Sprinkler heads may be attached to sanitary system provided electrical or pneumatic detecting is installed.
[3] On vessels contracted for prior to November 19, 1952, electric or pneumatic detecting may be substituted.
[4] On vessels contracted for prior to January 1, 1962, a steam smothering system may be accepted. However, although existing steam smothering systems may be repaired, replaced, or extended, no new system contracted for on or after January 1, 1962, will be permitted.
[5] Protection of auxiliary boilers, fuel oil units, valves and manifolds not required on vessels contracted for prior to November 19, 1952.
[6] Not required on vessels of less than 300 gross tons (except on an international voyage) using fuel with a flashpoint higher than 110 °F., where the space is normally manned.
[7] Not required on vessels contracted for prior to November 19, 1952.

[8] Not required on vessels of less than 300 gross tons nor on vessels contracted for prior to November 19, 1952, except where fuel, including starting fuel, has a flashpoint of 110 °F. or less.
[9] Where fuel having a flashpoint of 110 °F. or lower is used, the space containing the fuel tanks shall be protected by a carbon dioxide system.

(3) Any vessel of 150 feet or less in length, not on an international voyage, having sleeping accommodations for 50 or more passengers. Vessels in this category are not required to have a detecting system in the cargo spaces.

(b) The arrangements and details of the fire detecting systems shall be as set forth in subparts 76.25 through 76.33.

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 65–33, 31 FR 15282, Dec. 6, 1966]

§ 76.05–5 Manual alarm system.

(a) An approved manual alarm system shall be installed in all areas, other than the main machinery spaces, which are normally accessible to the passengers or crew on any vessel having sleeping accommodations for passengers or on any vessel on an international voyage.

(b) The arrangement and details of the manual alarm system shall be as set forth in subpart 76.35.

§ 76.05–10 Supervised patrol system.

(a) A supervised patrol or watchman system shall be provided on all vessels as set forth in §§ 78.30–10 and 78.30–15 of this subchapter.

(b) [Reserved]

§ 76.05–15 Fire main system.

(a) Fire pumps, hydrants, hose, and nozzles shall be installed on the following vessels:

(1) On all self-propelled vessels.

(2) After July 1, 1957, on all barges with sleeping accommodations for more than six persons.

(b) The arrangement and details of the fire main system shall be as set forth in subpart 76.10.

§ 76.05–20 Fixed fire extinguishing systems.

Approved fire extinguishing systems must be installed, as required by table 76.05–1(a) on all self-propelled vessels and on all barges with sleeping accommodations for more than six persons. Previously approved installations may be retained as long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

[CGD 95–027, 61 FR 35138, July 5, 1996]

§ 76.05–25 Hand portable fire extinguishers and semiportable fire extinguishing systems.

(a) Approved hand portable fire extinguishers and semiportable fire extinguishing systems shall be installed on all vessels as set forth in subpart 76.50.

(b) [Reserved]

Subpart 76.10—Fire Main System, Details

§ 76.10–1 Application.

(a) The provisions of this subpart, with the exception of § 76.10–90, shall apply to all fire main installations contracted for on or after May 26, 1965. Installations contracted for prior to May 26, 1965, shall meet the requirements of § 76.10–90.

(b) [Reserved]

§ 76.10–3 Water availability.

(a) On all vessels on an international voyage, regardless of the date of construction, water pressure from the firemain protecting enclosed spaces shall be immediately available by maintenance of water pressure on the firemain at all times when passengers are aboard the vessel, or by remote control of fire pumps which control shall be easily operable and readily accessible.

(b) Where approved remote controls are not installed, an alarm shall be fitted which will sound in the engine room indicating a drop of water pressure on the system.

[CGFR 67–87, 32 FR 19181, Dec. 20, 1967]

§ 76.10–5 Fire pumps.

(a) Vessels shall be equipped with independently driven fire pumps in accordance with table 76.10–5(a).

TABLE 76.10–5(a)

Gross tons		Minimum number of pumps		Hose and hydrant size, inches	Nozzle orifice size, inches	Length of hose, feet
Over	Not over	International voyage	Other			
.....	100	2	1	1½	½	50
100	500	2	1	1½	⅝	50
500	1,500	2	2	1½	⅝	50
1,500	4,000	2	2	[1] 2½	[1] ⅞	[1] 50
4,000	.....	3	3	[1] 2½	[1] ⅞	[1] 50

[1] 75 feet of 1½-inch hose and ⅝-inch nozzles may be used where specified by § 76.10–10(b).

(b) Vessels on an international voyage shall have a minimum total fire pump capacity at least equal to two-thirds of the required total bilge pump capacity, but in no case less than that required by this section. Each of the required fire pumps shall have a capacity not less than 80 percent of the total required capacity divided by the number of required pumps.

(c) Each pump shall be capable of delivering water simultaneously from the two highest outlets at a Pitot tube pressure of approximately 50 p. s. i. Where one or both of these outlets is a 1½-inch siamese fitting, both branches of the siamese fitting at each such outlet shall be utilized for the purpose of this requirements.

(d) Fire pumps shall be fitted on the discharge side with relief valves set to relieve at 25 p. s. i. in excess of the pressure necessary to maintain the requirements of paragraph (c) of this section or 125 p. s. i., whichever is greater. Relief valves may be omitted if the pumps, operating under shutoff conditions, are not capable of developing a pressure exceeding this amount.

(e) Fire pumps shall be fitted with a pressure gauge on the discharge side of the pumps.

(f) Fire pumps may be used for other purposes provided at least one of the required pumps is kept available for use on the fire system at all times. In no case shall a pump having connection to an oil line be used as a fire pump. Branch lines connected to the fire main for purposes other than fire and deck wash shall be arranged so that the requirements of paragraphs (b) and (c) of this section and any other services installed on the fire main can be met simultaneously.

(g) The total area of the pipes leading from a pump shall not be less than the discharge area of the pump.

(h) On vessels with oil fired boilers, either main or auxiliary, or with internal combustion propulsion machinery, where 2 fire pumps are required, they shall be located in separate spaces and the arrangement of pumps, sea connections, and sources of power shall be such as to insure that a fire in any one space will not put all of the fire pumps out of operation. However, in vessels of less than 300 feet in length, where it is shown to the satisfaction of the Commandant that it is unreasonable or impracticable to meet this requirement due to the size or arrangement of the vessel, or for other reasons, the installation of a total flooding carbon dioxide system may be accepted as an alternate method of extinguishing any fire which would affect the powering and operation of at least one of the required fire pumps.

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGD 95–028, 62 FR 51204, Sept. 30, 1997]

§ 76.10–10 Fire station hydrants, hose and nozzles–T/ALL.

(a) The size of fire hydrants, hose, and nozzles and the length of hose required shall be as noted in table 76.10–5(a).

(b) In lieu of the 2½-inch hose and hydrants specified in table 76.10–5(a), on vessels over 1,500 gross tons, the hydrants in interior locations may have siamese connections for 1½-inch hose. In these cases the hose shall be 75 feet in length, and only one hose will be required at each fire station; however, if all such stations can be satisfactorily served with 50-foot lengths, 50-foot hose may be used.

(c) On vessels of 500 gross tons and over there must be at least one shore connection to the fire main available to each side of the vessel in an accessible location. Suitable cut-out valves and check valves must be provided. Suitable adaptors also must be provided for furnishing the vessel's shore connections with couplings mating those on the shore fire lines. Vessels of

500 gross tons and over on an international voyage, must be provided with at least one international shore connection complying with ASTM F 1121 (incorporated by reference, see § 76.01–2). Facilities must be available enabling an international shore connection to be used on either side of the vessel.

(d) Fire hydrants shall be of sufficient number and so located that any part of the vessel, other than main machinery spaces, accessible to the passengers or crew while the vessel is being navigated and all cargo holds may be reached with at least two streams of water from separate outlets, at least one of which shall be from a single length of hose. For the purpose of this requirement, all watertight doors and all doors in main vertical zone bulkheads and stairway enclosures shall be closed, although hose ports may be installed in doors other than watertight doors and doors in main vertical zone bulkheads for the passage of the hose. In main machinery spaces, all portions at such spaces shall be capable of being reached by at least two streams of water, each of which shall be from a single length of hose from separate outlets; however, this requirement need not apply to shaft alleys containing no assigned space for the stowage of combustibles. Fire hydrants shall be numbered as required by § 78.47–20 of this subchapter.

(e) All parts of the fire main located on exposed decks shall either be protected against freezing or be fitted with cut-out valves and drain valves so that the entire exposed parts of such piping may be shut off and drained in freezing weather. Except when closed to prevent freezing, such valves shall be sealed open.

(f) The outlet at each fire hydrant shall be provided with a cock or valve fitted in such a position that the fire hose may be removed while the firemain is under pressure. In addition, the outlet shall be limited to any position from the horizontal to the vertical pointing downward, so that the hose will lead horizontally or downward to minimize the possibility of kinking.

(g) Each fire hydrant must have at least one length of fire hose, a spanner, and a hose rack or other device for stowing the hose.

(h) Fire hose shall be connected to the outlets at all times. However, on open decks where no protection is afforded to the hose in heavy weather, or where the hose may be liable to damage from the handling of cargo the hose may be temporarily removed from the hydrant and stowed in an accessible nearby location.

(i) Fire hose shall not be used for any other purpose than fire extinguishing and fire drills.

(j) Each firehose on each hydrant must have a combination solid stream and water spray firehose nozzle that meets the requirements in subpart 162.027 of this chapter. Firehose nozzles previously approved under subpart 162.027 of this chapter may be retained so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

(k) Firehose nozzles previously approved under subpart 162.027 of this chapter must have low-velocity water spray applicators also previously approved under subpart 162.027 of this chapter as follows—

(1) In accommodation and service areas—two firehoses; and

(2) In each propulsion machinery space containing an oil-fired boiler, internal combustion machinery, or oil fuel unit on a vessel on an international voyage or of 1000 gross tons or more—each firehose. The length of each applicator must be not more than 1.8 meters (6 feet).

(l) Fixed brackets, hooks, or other means for stowing an applicator must be next to each fire hydrant that has an applicator under paragraph (k) of this section.

(m) Fire hydrants, nozzles, and other fittings shall have threads to accommodate the hose connections noted in paragraph (l) of this section.

(n) Firehose and couplings must be as follows:

(1) Fire station hydrant connections shall be brass, bronze, or other equivalent metal. Couplings shall either—

(i) Use National Standard fire hose coupling threads for the 1½ inch (38 millimeter) and 2½ inch (64 millimeter) hose sizes, i.e., 9 threads per inch for

1½ inch hose, and 7½ threads per inch for 2½ inch hose; or

(ii) Be a uniform design for each hose diameter throughout the vessel.

(2) Each section of firehose must be lined commercial firehose that conforms to Underwriters' Laboratories, Inc. Standard 19 or Federal Specification ZZ–H–451E. Hose that bears the label of Underwriters' Laboratories, Inc. as lined firehose is accepted as conforming to this requirement.

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 67–87, 32 FR 19181, Dec. 20, 1967; CGD 74–60, 41 FR 43151, Sept. 30, 1976; CGD 76–086, 44 FR 2392, Jan. 11, 1979; CGD 88–032, 56 FR 35825, July 29, 1991; CGD 95–012, 60 FR 48051, Sept. 18, 1995; CGD 95–027, 61 FR 26004, May 23, 1996; CGD 95–028, 62 FR 51204, Sept. 30, 1997; USCG–2000–7790, 65 FR 58461, Sept. 29, 2000]

§ 76.10–15 Piping.

(a) All piping, valves, and fittings shall meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.

(b) All distribution cut-off valves shall be marked as required by § 78.47–15 of this subchapter.

(c) For vessels on an international voyage, the diameter of the fire main shall be sufficient for the effective distribution of the maximum required discharge from two fire pumps operating simultaneously. This is in addition to § 76.10–5(c). The discharge of this quantity of water through hoses and nozzles at a sufficient number of adjacent hydrants shall be at a minimum Pitot tube pressure of approximately 50 pounds per square inch.

§ 76.10–90 Installations contracted for prior to May 26, 1965.

(a) Installations contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 76.10–5 through 76.10–15 shall be complied with insofar as the number and general type of equipment is concerned. Existing equipment, except firehose nozzles and low-velocity water spray applicators, previously approved but not meeting the applicable requirements of §§ 76.10–5 through 76.10–15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be permitted to the same standards as the original installation. However, all new installations or major replacements shall meet the applicable requirements in this part.

(2) All vessels contracted for prior to November 19, 1952, shall be fitted with fire pumps, hoses, and nozzles in accordance with table 76.10–90(a)(2).

TABLE 76.10–90(a)(2)

Gross tons		Minimum number of pumps	Minimum hose and hydrant size, inches	Nozzle orifice size, inches	Length of hose, feet
Over	Not over				
100	4,000	2	[1] 1½	[1] ⅝	[1] 50
4,000	.....	3	[1] 1½	[1] ⅝	[1] 50

[1] May use 50 feet of 2½-inch hose with ⅞-inch nozzles for exterior stations. May use 75 feet of 1½-inch hose with ⅝-inch nozzles for interior station in which case such interior stations shall have siamese connections.

(3) When reasonable and practicable, where two or more fire pumps are required, they shall not all be located in the same space. Vessels on an international voyage shall, however, comply with the requirements of § 76.10–5(h).

(4) The general requirements of § 76.10–5(c) through (h), § 76.10–10(d) through (i), and § 76.10–15, shall be complied with insofar as is reasonable and practicable. In addition, vessels on an international voyage shall comply with the requirements of § 76.10–5(b).

(5) Vessels on an international voyage shall comply with the requirements of § 76.10–3.

(6) Firehose nozzles and low-velocity spray applicators must meet the requirements of §§ 76.10–10(j), 76.10–10(k), and 76.10–10(l)

(b) [Reserved]

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 67–87, 32 FR 19181, Dec. 20, 1967; CGD 76–086, 44 FR 2392, Jan. 11, 1979; CGD 95–027, 61 FR 26004, May 23, 1996; USCG–2000–7790, 65 FR 58461, Sept. 29, 2000]

Subpart 76.13—Steam Smothering Systems

§ 76.13–1 Application.

Steam smothering systems are not permitted on vessels contracted for on

or after January 1, 1962. Previously approved installations may be retained as long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

[CGD 95–027, 61 FR 26004, May 23, 1996]

§ 76.13–90 Installations contracted for prior to January 1, 1962.

(a) Installations contracted for prior to July 1, 1935, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original installation.

(2) The main pipes and their branches to the cargo compartments and similar spaces shall be not less than 1½-inch pipe size and shall emanate from not more than two stations in easily accessible locations. If located on the open deck, the distribution manifolds shall be suitably protected by an enclosing cabinet or casing which shall be marked as required by § 78.47–17 of this subchapter. Each branch line shall have a valve at the manifold which shall be marked as required by § 78.47–15 of this subchapter.

(3) Branches to paint lockers and similar small spaces may be taken from the nearest stream supply line and shall be not less than ¾-inch pipe size. The valve shall be marked as required by § 78.47–15 of this subchapter.

(b) Installations contracted for on or after July 1, 1935, but prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials and facilities previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, and alterations may be made to the same standard as the original installation.

(2) Steam shall be available from the main or auxiliary boilers to provide at least one pound of steam per hour for each 50 cubic feet of gross volume of the largest compartment protected. Where reasonable and practicable, the steam pressure shall be at least 100 p.s.i.

(3) The piping system shall meet the general requirements of paragraphs (c)(5) through (12) of this section insofar as is reasonable and practicable.

(4) The minimum size of distribution piping and the number of branches to the various spaces shall be as given in table 76.13–90(b)(4) or by the following formula:

$$D=\sqrt{C}/30{,}000 \quad (1)$$

where:

D=Required diameter of pipe in inches.
C=Volume of compartment in cubic feet.

TABLE 76.13–90(b)(4)

Volume of compartment in cubic feet		Number of branches to compartment	Pipe size of each branch, inches
Over	Not over		
.....	30,000	1	1
30,000	46,000	1	1¼
46,000	67,000	1	1½
67,000	94,000	.....	1¼
94,000	135,000	2	1½
135,000	203,000	3	1½

(5) The minimum size of the steam supply line from the boiler to the distribution and manifold shall be as given by the following formula:

$$D=\sqrt{C}/60{,}000 \quad (2)$$

where:

D=Diameter of pipe in inches.
C=Volume of all compartments in cubic feet.

(c) Installations contracted for on or after November 19, 1952, but prior to January 1, 1962, shall meet the following requirements:

(1) Existing arrangements, materials and facilities previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original installation.

(2) Steam shall be available from main or auxiliary boilers to provide at

least one pound of steam per hour for each 12 cubic feet of the gross volume of the largest compartment to be protected.

(3) Although separate piping shall be led to each cargo hold and 'tween deck, for the purpose of determining the amount of steam required, a cargo compartment will be considered as the space between adjacent watertight or firescreen bulkheads and from tank top or lowest deck to the deck head of the uppermost deck on which cargo may be carried. If a trunk extends beyond such deck, the trunk space shall be included. Tonnage openings shall be considered as sealed for this purpose.

(4) A steam pressure of at least 100 p.s.i. shall be available unless specifically approved otherwise.

(5) All piping, valves, and fittings shall meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.

(6) The distribution piping shall emanate from not more than three stations in easily accessible locations on the weather deck, and shall lead to the lower portion of each cargo hold, cargo 'tween deck, and other compartments protected. However, lines to paint lockers and similar small spaces may be taken from the nearest steam supply line.

(7) The distribution line to each compartment shall be fitted with a shutoff valve. The valve shall be marked as required by § 78.47–15 of this subchapter.

(8) The manifold steam supply line shall be fitted with a master valve at the manifold.

(9) Provisions shall be made for draining the manifold and distribution lines to prevent them from freezing.

(10) If located on the open deck, the distribution manifolds shall be suitably protected by an enclosing cabinet or casing. In any case, it shall be marked as required by § 78.47–17 of this subchapter.

(11) Piping shall not be led into or through spaces accessible to the passengers or crew while the vessel is being navigated, with the exception of machinery spaces and corridors. However, in special cases, arrangements to run piping through such spaces may be specifically approved by the Commandant, provided all joints are welded, suitable expansion bends are provided, and all piping is extra heavy.

(12) Piping shall be used for no other purpose except that it may be incorporated with the fire detecting system, and where suitable provisions are made, it may be used for steaming out tanks.

(13) The minimum size and number of branches to the various spaces shall be as given in table 76.13–90(c)(13). The distribution piping from the manifold to the branch lines shall have an area approximately equal to the combined areas of the branch lines served.

TABLE 76.13–90(c)(13)

Volume of spaces in cubic feet		Number of branches to spaces	Pipe size of each branch, inches
Over	Not over		
.....	500	1	¾
500	5,000	1	1
5,000	15,000	1	1¼
15,000	30,000	1	1½
30,000	60,000	2	1½
60,000	100,000	3	1½
100,000	190,000	4	1½

(14) The steam supply line from the boiler to any distribution manifold shall be of sufficient size to supply all the branch lines to the largest compartment and to all adjacent compartments.

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15283, Dec. 6, 1966]

Subpart 76.15—Carbon Dioxide Extinguishing Systems, Details

§ 76.15–1 Application.

(a) Where a carbon dioxide extinguishing system is installed, the provisions of this subpart, with the exception of § 76.15–90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.15–90.

(b) The requirements of this subpart are based on a ''high pressure system'', i.e., one in which the carbon dioxide is stored in liquid form at atmospheric temperature. Details for ''low pressure systems'', i.e., those in which the carbon dioxide is stored in liquid form at

a continuously controlled low temperature, may be specifically approved by the Commandant where it is demonstrated that a comparable degree of safety and fire extinguishing ability is achieved.

§ 76.15–5 Quantity, pipe sizes, and discharge rate.

(a) *General*. The amount of carbon dioxide required for each space shall be as determined by the following paragraphs in this section.

(b) *Total available supply*. 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.

(c) *Cargo spaces*. (1) The number of pounds of carbon dioxide required for each space in cubic feet shall be equal to the gross volume of the space in cubic feet divided by 30.

(2) Although separate piping shall be led to each cargo hold and 'tween deck, for the purpose of determining the amount of carbon dioxide required, a cargo compartment will be considered as the space between adjacent watertight or firescreen bulkheads and from the tank top or lowest deck to the deck head of the uppermost space on which cargo may be carried. If a trunk extends beyond such deck, the trunk volume shall be included. Tonnage openings shall be considered as sealed for this purpose.

(3) Branch lines to the various cargo holds and 'tween decks shall not be less than ¾ inch standard pipe size.

(4) No specific discharge rate need be applied to such systems.

(d) *Machinery spaces, paint lockers, tanks, and similar spaces*. (1) Except as provided in paragraph (d)(3) of this section, the number of pounds of carbon dioxide required for each space shall be equal to the gross volume of the space divided by the appropriate factor noted in table 76.15–5(d)(1). If fuel can drain from the compartment being protected to an adjacent compartment, or if the compartments are not entirely separate, the requirements for both compartments shall be used to determine the amount of carbon dioxide to be provided. The carbon dioxide shall be arranged to discharge into both such compartments simultaneously.

TABLE 76.15–5(d)(1)

Gross volume of compartment, cubic feet		Factor
Over	Not over	
.....	500	15
500	1,600	16
1,600	4,500	18
4,500	50,000	20
50,000	.....	22

(2) For the purpose of the above requirement of this paragraph, the volume of a machinery space shall be taken as exclusive of the normal machinery casing unless the boiler, internal combustion machinery, or fuel oil installations extend into such space in which case the volume shall be taken to the top of the casing or the next material reduction in casing area, whichever is lower. For installations contracted for on or after October 1, 1959, ''normal machinery casing'' and ''material reduction in casing area'' shall be defined as follows:

(i) By ''normal machinery casing'' shall be meant a casing the area of which is not more than 40 percent of the maximum area of the machinery space.

(ii) By ''material reduction in casing area'' shall be meant a reduction to at least 40 percent of the casing area.

(3) For vessels on an international voyage contracted for on or after May 26, 1965, the amount of carbon dioxide required for a space containing propulsion boilers or internal combustion propulsion machinery shall be as given by paragraphs (d) (1) and (2) of this section or by dividing the entire volume, including the casing, by a factor of 25, whichever is the larger.

(4) Branch lines to the various spaces shall be as noted in table 76.15–5(d)(4).

TABLE 76.15–5(d)(4)

Maximum quantity of carbon dioxide required, pounds	Minimum nominal pipe size, inches	Maximum quantity of carbon dioxide required, pounds	Minimum nominal pipe size, inches
100	½	2,500	2½
225	¾	4,450	3
300	1	7,100	3½
600	1¼	10,450	4
1,000	1½	15,000	4½

TABLE 76.15–5(d)(4)—Continued

Maximum quantity of carbon dioxide required, pounds	Minimum nominal pipe size, inches	Maximum quantity of carbon dioxide required, pounds	Minimum nominal pipe size, inches
2,450	2		

(5) Distribution piping within the space shall be proportioned from the supply line to give proper distribution to the outlets without throttling.

(6) The number, type, and location of discharge outlets shall be such as to give a uniform distribution throughout the space.

(7) 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 inch.

(8) The discharge of at least 85 percent of the required amount of carbon dioxide shall be complete within 2 minutes.

(e) *Spaces specially suitable for vehicles.* (1) The number of pounds of carbon dioxide required shall be equal to the gross volume of the largest ''tight'' space divided by 22. In no case, however, shall it be less than that required by paragraph (c) of this section.

(2) The arrangement of valves and piping shall be such that the required quantity of carbon dioxide may be discharged into any ''tight'' space. The discharge of the required quantity of carbon dioxide shall be completed within 2 minutes.

(3) Except as noted in paragraphs (e)(1) and (2) of this section, the requirements of paragraph (e) of this section shall apply.

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR, 66–33, 31 FR 15283, Dec. 6, 1966; CGD 95–028, 62 FR 51204, Sept. 30, 1997; USCG–1999–6216, 64 FR 53225, 53226, Oct. 1, 1999]

§ 76.15–10 Controls.

(a) Except as noted in § 76.15–20(b), all controls and valves for the operation of the system shall be outside the space protected, and shall not be located in any space that might be cut off or made inaccessible in the event of fire in any of the spaces protected.

(b) If the same cylinders are used to protect more than one hazard, a manifold with normally closed stop valves shall be used to direct the carbon dioxide into the proper space. If cylinders are used to protect only one hazard, a normally closed stop valve shall be installed between the cylinders and the hazard except for systems of the type indicated in § 76.15–5(d) which contain not more than 300 pounds of carbon dioxide.

(c) Distribution piping to the various cargo spaces shall be controlled from not more than two stations. One of the stations controlling the system for the main machinery space shall be located as convenient as practicable to one of the main escapes from the space. All control stations and the individual valves and controls shall be marked as required by §§ 78.47–15 and 78.47–17 of this subchapter.

(d) Systems of the type indicated in § 76.15–5(d) shall be actuated by one control operating the valve to the space and a separate control releasing at least the required amount of carbon dioxide. These two controls shall be located in a box or other enclosure clearly identified for the particular space. Those systems installed without a stop valve shall be operated by one control releasing at least the required amount of carbon dioxide.

(e) Where provisions are made for the simultaneous release of a given amount of carbon dioxide by operation of a remote control, provisions shall also be made for manual control at the cylinders. Where gas pressure from pilot cylinders is used as a means for releasing the remaining cylinders, not less than two pilot cylinders shall be used for systems consisting of more than two cylinders. Each of the pilot cylinders shall be capable of manual control at the cylinder, but the remaining cylinders need not be capable of individual manual control.

(f) Systems of the type indicated in § 76.15–5(d), other than systems for tanks, which are of more than 300 pounds of carbon dioxide, shall be

fitted with an approved delayed discharge so arranged that the alarm will be sounded for at least 20 seconds before the carbon dioxide is released into the space. Such systems of not more than 300 pounds of carbon dioxide shall also have a similar delayed discharge, except for those systems for tanks and for spaces which have a suitable horizontal escape. This paragraph shall be applicable only to systems installed on or after July 1, 1957.

(g) All distribution valves and controls shall be of an approved type. All controls shall be suitably protected.

(h) 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.

(i) If the space or enclosure containing the carbon dioxide supply or controls is to be locked, a key to the space or enclosure shall be in a break-glass-type box conspicuously located adjacent to the opening.

[CGFR 65–60, 30 FR 16940, Dec. 30, 1965, as amended by CGD 74–100R, 40 FR 6209, Feb. 10, 1975; USCG–1999–6216, 64 FR 53226, Oct. 1, 1999]

§ 76.15–15 Piping.

(a) The piping, valves, and fittings shall have a bursting pressure of not less than 6,000 p.s.i.

(b) All piping, in nominal sizes not over ¾ inch, shall be at least Schedule 40 (standard weight), and in nominal sizes over ¾ inch, shall be at least Schedule 80 (extra heavy).

(c) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved otherwise by the Commandant.

(d) A pressure relief valve or equivalent set to relieve between 2,400 and 2,800 p.s.i. shall be installed in the distributing manifold or such other location as to protect the piping in the event that all branch line shut-off valves are closed.

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

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

(g) 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 where possible.

(h) Piping shall be used for no other purpose except that it may be incorporated with the fire detecting system.

(i) Piping passing through living quarters shall not be fitted with drains or other openings within such spaces.

(j) Installation test requirements:

(1) Upon completion of the piping installation, and before the cylinders are connected, a pressure test shall be applied as set forth in this paragraph. Only carbon dioxide or other inert gas shall be used for this test.

(2) The piping from the cylinders to the stop valves in the manifold shall be subjected to a pressure of 1,000 p.s.i. With no additional gas being introduced to the system, it shall be demonstrated that the leakage of the system is such as not to permit a pressure drop of more than 150 p.s.i. per minute for a 2-minute period.

(3) The individual branch lines to the various spaces protected shall be subjected to a test similar to that described in the preceding paragraph with the exception that the pressure used shall be 600 p.s.i. in lieu of 1,000 p.s.i. For the purpose of this test, the distribution piping shall be capped within the space protected at the first joint ahead of the nozzles.

(4) In lieu of the tests prescribed in the preceding paragraphs in this section, small independent systems protecting spaces such as emergency generator rooms, lamp lockers, etc., may be tested by blowing out the piping with air at a pressure of at least 100 p.s.i.

§ 76.15–20 Carbon dioxide storage.

(a) Except as provided in paragraph (b) of this section, the cylinders shall be located outside the spaces protected, and shall not be located in any space

that might be cut off or made inaccessible in the event of a fire in any of the spaces protected.

(b) Systems of the type indicated in § 76.15–5(d), consisting of not more than 300 pounds of carbon dioxide, may have the cylinders located within the space protected. If the cylinder stowage is within the space protected, the system shall be arranged in an approved manner to be automatically operated by a heat actuator within the space in addition to the regular remote and local controls.

(c) The space containing the cylinders shall be properly ventilated and designed to preclude an anticipated ambient temperature in excess of 130 degrees F.

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

(e) Cylinders shall be so mounted as to be readily accessible and capable of easy removal for recharging and inspection. Provisions shall be available for weighing the cylinders.

(f) 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.

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

(h) Where check valves are not fitted on each independent cylinder discharge, plugs or caps shall be provided for closing outlets when cylinders are removed for inspection or refilling.

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

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGD 84–044, 53 FR 7748, Mar. 10, 1988; USCG–1999–6216, 64 FR 53226, Oct. 1, 1999]

§ 76.15–25 Discharge outlets.

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

(b) [Reserved]

§ 76.15–30 Alarms.

(a) Spaces which are protected by a carbon dioxide extinguishing system and are normally accessible to persons on board while the vessel is being navigated, other than paint and lamp lockers and similar small spaces, shall be fitted with an approved audible alarm in such spaces which will be automatically sounded when the carbon dioxide is admitted to the space. The alarm shall be conspicuously and centrally located and shall be marked as required by § 78.47–9 of this subchapter. For systems installed on or after July 1, 1957, alarms will be mandatory only for systems required to be fitted with a delayed discharge. Such alarms shall be so arranged as to sound during the 20 second delay period prior to the discharge of carbon dioxide into the space, and the alarm shall depend on no source of power other than the carbon dioxide.

(b) [Reserved]

§ 76.15–35 Enclosure openings.

(a) Where mechanical ventilation is provided for spaces other than cargo and similar spaces which are protected by a carbon dioxide extinguishing system, provisions shall be made so that the ventilation system is automatically shut down with the operation of the system to that space.

(b) Where natural ventilation is provided for spaces protected by a carbon dioxide extinguishing system, provisions shall be made for easily and effectively closing off the ventilation.

(c) Means shall be provided for closing all openings to the space protected from outside such space. In this respect, relatively tight doors, shutters, or dampers shall be provided for openings in the lower portion of the space. The construction shall be such that openings in the upper portion of the space can be closed off either by permanently installed means or by the use of canvas or other material which is normally carried by the vessel.

§ 76.15–40 Pressure relief.

(a) Where necessary, relatively tight compartments such as refrigeration spaces, paint lockers, etc., shall be provided with suitable means for relieving

excessive pressure accumulating within the compartment when the carbon dioxide is injected.

(b) [Reserved]

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15283, Dec. 6, 1966]

§ 76.15–90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.15–5 through 76.15–40 insofar as is reasonable and practicable, with the exception of § 76.15–5(d) (1) through (3) covering spaces other than cargo spaces, which systems may be installed in accordance with paragraphs (a) (3) through (6) of this section. However, the foregoing exception shall not be permitted for vessels on an international voyage.

(3) In boilerrooms, the bilges shall be protected by a system discharging principally below the floor plates. Perforated pipe may be used in lieu of discharge nozzles for such systems. The number of pounds of carbon dioxide shall be equal to the gross volume of the boiler room taken to the top of the boilers divided by 36. In the event of an elevated boilerroom which drains to the machinery space, the system shall be installed in the engine room bilge and the gross volume shall be taken to the flat on which the boilers are installed.

(4) In machinery spaces where main propulsion internal combustion machinery is installed, the number of pounds of carbon dioxide required shall be equal to the gross volume of the space taken to the underside of the deck forming the hatch opening divided by 22.

(5) In miscellaneous spaces other than cargo or main machinery spaces, the number of pounds of carbon dioxide required shall be equal to the gross volume of the space divided by 22.

(6) Branch lines to the various spaces other than cargo and similar spaces, shall be as noted in table 76.15–90(a)(6). This table is based on cylinders having discharge outlets and siphon tubes of ⅜-inch diameter.

TABLE 76.15–90(a)(6)

Number of cylinders		Nominal pipe size	
Over	Not over	Inches	Type
.....	2	½	Standard.
2	4	¾	Do.
4	6	1	Extra heavy.
6	12	1¼	Do.
12	16	1½	Do.
16	27	2	Do.
27	39	2½	Do.
39	60	3	Do.
60	80	3½	Do.
80	104	4	Do.
104	165	5	Do.

(b) [Reserved]

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 67–87, 32 FR 19181, Dec. 20, 1967; USCG–1999–6216, 64 FR 53226, Oct. 1, 1999]

Subpart 76.17—Foam Extinguishing Systems, Details

§ 76.17–1 Application.

(a) Where a foam extinguishing system is installed, the provisions of this subpart, with the exception of § 76.17–90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.17–90.

(b) [Reserved]

§ 76.17–5 Quantity of foam required.

(a) *Area protected.* (1) For machinery and similar spaces, the system shall be so designed and arranged as to spread a blanket of foam over the entire tank top or bilge of the space protected. The arrangement of piping shall be such as to give a uniform distribution over the entire area protected.

(2) Where an installation is made to protect an oil fired boiler installation on a flat which is open to or can drain to the lower engine room or other space, both the flat and the lower space

shall be protected simultaneously. The flat shall be fitted with suitable coamings on all openings other than deck drains to properly restrain the oil and foam at that level. Other installations of a similar nature will be considered in a like manner.

(3) Where a system is installed to protect a tank, it shall be so designed and arranged as to spread a blanket of foam over the entire liquid surface of the tank within the range of usual trim. The arrangement of piping shall be such as to give a uniform distribution over the entire area protected.

(b) *Rate of application.* (1) For spaces other than tanks, the rate of discharge to foam outlets protecting the hazard shall be at least as set forth in this subparagraph.

(i) For chemical foam systems with stored ''A'' and ''B'' solutions, a total of at least 1.6 gallons per minute of the two solutions shall be discharged for each 10 square feet of area protected.

(ii) For other types of foam systems, the water rate to the dry powder generators or air foam production equipment shall be at least 1.6 gallons per minute for each 10 square feet of area protected.

(2) For tanks, the rate of discharge to foam outlets protecting the hazard shall be as set forth in paragraph (b)(1) of this section except that the value of 1 gallon per minute shall be substituted in both cases for the value of 1.6 gallons per minute.

(c) *Supply of foam producing material.* (1) There shall be provided a quantity of foam producing material sufficient to operate the equipment at the discharge rate specified in paragraph (b) of this section for a period of at least 3 minutes for spaces other than tanks, and for at least 5 minutes for tanks.

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

(3) Where pumps are required, the water supply shall be from outside the space protected and shall in no way be dependent upon power from the space protected.

§ 76.17–10 Controls.

(a) The foam agent, its container, and all controls and valves for the operation of the system shall be of an approved type.

(b) The foam agent container and all controls and valves for the operation of the system shall be outside the space 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. The control space shall be as convenient as practicable to one of the main escapes from spaces protected, and shall be marked as required by § 78.47–17 of this subchapter. Where pumps are required, it shall not be necessary that they be started from the control space.

(c) Complete, but simple instructions for the operation of the system shall be located in a conspicuous place at or near the controls.

(d) The valves to the various spaces served shall be marked as required by § 78.47–15 of this chapter.

§ 76.17–15 Piping.

(a) All piping, valves, and fittings shall meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.

(b) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved otherwise by the Commandant.

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

(d) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture.

(e) Piping shall be used for no other purpose.

§ 76.17–20 Discharge outlets.

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

(b) [Reserved]

§ 76.17–25 Additional protection required.

(a) In order that any residual fires above the floor plates may be extinguished when a foam system is installed for the protection of spaces other than tanks, at least 2 fire hydrants, in addition to those required

for the machinery space by subpart 76.10, shall be installed outside of the machinery space entrances. Such hydrants shall be fitted with sufficient hose so that any part of the machinery space may be reached with at least 2 streams of water, and each hose shall be equipped with an approved combination nozzle, applicator, and self-cleaning strainer as described in § 76.10–10(j)(3).

(b) [Reserved]

§ 76.17–90 Installations contracted for prior to November 19, 1952.

(a) Installation contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.17–5 through 76.17–20, with the exception of § 76.17–5(a)(2), insofar as is reasonable and practicable. A 6-inch blanket of foam in 5 minutes for tanks and 3 minutes for other spaces will be considered as meeting the requirements of § 76.17–5.

(b) [Reserved]

Subpart 76.23—Manual Sprinkling System, Details

§ 76.23–1 Application.

(a) Where a manual sprinkling system is installed, the provisions of this subpart, with the exception of § 76.23–90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.23–90.

(b) [Reserved]

§ 76.23–5 Zoning.

(a) Separate zones may be used for each deck, and on any particular deck, spaces separated by ''A'' or ''B'' Class bulkheads may be separately zoned.

(b) On any particular deck, large common areas may be zoned in accordance with table 76.23–5(b). All such zones within one common area shall be of approximately the same size. Zones of this type shall overlap in such a manner that the end sprinkler heads of both adjoining zones will cover the identical area.

TABLE 76.23–5(b)

Square feet of common deck area		Maximum number of zones
Over	Not over	
.....	800	1
800	1,800	2
1,800	3,000	3
3,000	5,000	4
5,000	9,000	5
9,000	16,000	6
16,000	30,000	7
30,000	.....	8

§ 76.23–10 Quantity, pipe sizes, and discharge rates.

(a) *General.* (1) The system shall be so designed and arranged that the overhead is effectively sprayed and all portions of the deck are covered. The capacity shall be such that at least 12 gallons of water per minute are applied to each 100 square feet of deck area.

(2) Piping, fittings, sprinkler heads, and pumps installed in accordance with the remainder of this section will be considered as meeting the above requirements. If alternate sizes or arrangements are used, it shall be demonstrated that these minimum requirements have been met.

(b) *Sprinkler heads.* (1) Three-eighth inch open type sprinkler heads shall be used. Sprinkler heads shall be so arranged that no portion of the overhead is more than 7 feet from a sprinkler head.

(2) [Reserved]

(c) *Pipe sizes.* (1) The various pipe sizes shall be in proportion to the number of heads served. Minimum pipe sizes shall be as given in table 76.23–10(c).

TABLE 76.23–10(c)

Number of 3/8 inch heads served		Minimum nominal pipe sizes, inches
Over	Not over	
.....	1	¾
1	2	1

TABLE 76.23–10(c)—Continued

Number of 3/8 inch heads served		Minimum nominal pipe sizes, inches
Over	Not over	
2	4	1¼
4	6	1½
6	12	2
12	18	2½
18	30	3
30	46	3½
46	66	4
66	120	5

(d) *Fire pumps.* (1) The fire pumps may be used for the sprinkling system provided there is sufficient total capacity to operate the largest zone of the sprinkling system with a Pitot tube pressure of at least 15 p.s.i. at all heads and at the same time to deliver water from the two highest fire hose outlets in a manner similar to that described in § 76.10–5(c). In addition, on vessels over 750 gross tons, there shall be sufficient pumping capacity to also operate the second largest zone.

§ 76.23–15 Controls.

(a) The controls for 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. The control space shall be marked as required by § 78.47–15 of this subchapter. It shall not be necessary to start the pumps from the control space.

(b) Distribution piping to the various zones shall be controlled from one station. Each branch line to the various zones shall be fitted with a stop valve which shall be marked as required by § 78.47–15 of this subchapter.

§ 76.23–20 Piping.

(a) All piping, valves, and fittings shall meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.

(b) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved by the Commandant.

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

(d) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture.

(e) Piping shall be used for no other purpose.

§ 76.23–25 Sprinkler heads.

(a) Sprinkler heads shall be of an approved type.

(b) [Reserved]

§ 76.23–90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and replacements may be made to the same standards as the original installation.

(2) The details of the system shall be in general agreement with §§ 76.23–5 through 76.23–25 insofar as is reasonable and practicable. Existing piping, pumping facilities, and sprinkler heads or perforated pipes may be retained provided all portions of the overhead are effectively sprayed and all portions of the deck are covered.

(b) [Reserved]

Subpart 76.25—Automatic Sprinkling System, Details

§ 76.25–1 Application.

Where an automatic sprinkling system is installed, the systems shall comply with NFPA 13–1996.

[CGD 95–028, 62 FR 51204, Sept. 30, 1997]

§ 76.25–5 Zoning.

(a) The automatic sprinkling system shall be divided into separate zones to restrict the area covered by any particular alarm signal.

(b) No sprinkling zone shall contain more than 250 sprinkler heads.

(c) The sprinkling zone may cover more than one deck, in which case, the boundaries shall be maintained in a vertical line insofar as is reasonable and practicable. The boundaries of the

zone shall be coincident with bulkheads of Class ''A'' construction such as main vertical zone or watertight bulkheads.

(d) Spaces in different main vertical zones shall not be included in the same sprinkling zone.

§ 76.25–10 Size and arrangement of sprinkler heads and pipe sizes.

(a) *General.* (1) The system shall be so designed and arranged that the overhead is effectively sprayed and that all portions of the deck are covered.

(2) One-half inch sprinkler heads shall be used. Sprinkler heads shall be so arranged that no portion of the overhead or vertical projection of the deck is more than 7 feet from a sprinkler head.

(b) *Pipe sizes.* (1) The sizes of branch lines, single cross mains, feed mains, and risers shall be in proportion to the number of sprinkler heads served. The minimum pipe sizes shall be as given in table 76.25–10(b)(1).

TABLE 76.25–10(b)(1)

Minimum nominal pipe size, inches	Maximum number of heads served	
	Vessels whose construction is more combustible than that set forth in §§ 72.05–5 through 72.05–60	Vessels constructed in general agreement with §§ 72.05–5 through 72.05–60
1	2	2
1¼	3	3
1½	5	5
2	10	10
2½	20	40
3	40	250
3½	65	.....
4	100	.....
5	160	.....
6	250	.....

(2) If a complete loop cross main is employed, the size of such cross main shall be in proportion to the number of sprinkler heads served. The minimum pipe sizes shall be as given in table 76.25–10(b)(2). The entire loop shall be of the same size pipe.

TABLE 76.25–10(b)(2)

Minimum nominal pipe size, inches	Maximum number of heads served	
	Vessels whose construction is more combustible than that set forth in §§ 72.05–5 through 72.05–60	Vessels constructed in general agreement with §§ 72.05–5 through 72.05–60
1	5	5
1¼	9	9
1½	13	13
2	22	30
2½	40	80
3	80	250
3½	130	.....
4	250	.....

§ 76.25–15 Pumps and water supply.

(a) An automatically controlled pump shall be provided to supply the sprinkling system and shall be used for no other purpose. The size and capacity of the pump shall be governed by the zone having the greatest capacity need for any one deck, and shall be suitable to operate at least the number of heads noted in table 76.25–15(a) with a Pitot tube pressure of at least 15 p.s.i. at all heads (approximately 20 GPM per head). There shall also be sufficient pumping capacity available, either from the automatic pump, the fire pumps, or other source, so that in conjunction with the automatic pump the total number of heads noted in table 76.25–15(a) may be operated with the same efficiency as noted above, and at the same time to deliver water from the two highest fire hose outlets in a manner similar to that described in § 76.10–5(c). Intermediate values may be obtained by interpolation.

TABLE 76.25–15(a)

Maximum number of heads on one deck in one zone	Number of heads automatic pump to supply	Number of heads additional pumps to supply
5	5	.....
10	10	.....
20	10	10
30	12	16
40	15	18
50	15	25
60	20	25
80	20	30

TABLE 76.25–15(a)—Continued

Maximum number of heads on one deck in one zone	Number of heads automatic pump to supply	Number of heads additional pumps to supply
100	20	40
120	20	50
150	20	60
200	20	75
250	20	100

(b) [Reserved]

§ 76.25–20 Pressure tank.

(a) A pressure tank or other suitable means shall be installed to permit early action of the system pending the starting of the pump. Sufficient fresh water shall be carried in the tank to fill the piping of the largest zone, and in addition, force out at least 200 gallons at the least effective head in the zone at a Pitot tube pressure of at least 15 p.s.i. Suitable check valves shall be installed to prevent salt water from entering the pressure tank, and low water and low pressure alarms shall be fitted.

(b) [Reserved]

§ 76.25–25 Controls.

(a) The controls for 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. The control space shall be marked as required by § 78.47–17 of this subchapter.

(b) Each supply line to the various zones shall be fitted with a stop valve which shall be marked as required by § 78.47–15 of this subchapter. These valves shall be normally open, and shall indicate by an alarm if they are closed.

§ 76.25–30 Piping.

(a) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved by the Commandant.

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

(c) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture.

(d) Piping shall be used for no other purpose.

§ 76.25–35 Operation and installation.

(a) The system shall be so arranged and installed that a fire in any of the protected spaces will open the affected sprinkler heads. Water from the pressure tank shall be immediately available to the affected sprinkler head and before the supply from the pressure tank is exhausted, the sprinkler pump shall be automatically started and shall supply the system until manually shut off. Suitable test stations shall be installed in each zone to test the operation of the system.

(b) The system shall be so arranged and installed that the presence of a fire in any of the protected spaces will automatically be registered visibly and audibly in the pilothouse or fire control station. The visible notice shall automatically indicate the zone in which the alarm originated. On vessels over 150 feet in length, there shall also be an audible alarm in the engine room.

(c) There shall be not less than two sources of power supply for the sea water pumps, air compressors and automatic alarms. Where the sources of power are electrical, these shall be a main generator and an emergency source of power. One supply shall be taken from the main switchboard, by separate feeders reserved solely for that purpose. Such feeders shall be run to a change-over switch situated near to the sprinkler unit and the switch shall normally be kept closed to the feeder from the emergency switchboard. The change-over switch shall be clearly labeled and no other switch shall be permitted in these feeders.

(d) Where subject to freezing, sprinkler systems shall be of the dry pipe type.

(e) The sprinkler heads, the cabinet, alarms, dry valves and actuating mechanisms shall be of an approved type.

(f) In general, the sprinkler heads shall be rated not lower than 135 degrees F. nor higher than 165 degrees F. However, in spaces where a high ambient temperature may be expected, sprinkler heads rated at 212 degrees F. shall be used.

(g) The automatic sprinkling system and all its components shall be used for no other purpose.

(h) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.

(i) All piping, valves, fittings, pressure tanks, etc., must meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.

(j) A framed chart or diagram shall be installed in the wheelhouse or control station adjacent to the detecting cabinet indicating the location of the various detecting zones and giving instructions for the operation, maintenance, and testing of the system. This chart, or a separate card or booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(k) The audible alarms shall be identified as required by § 78.47–13 of this subchapter.

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGD 74–125A, 47 FR 15231, Apr. 8, 1982]

§ 76.25–90 Installations contracted for prior to September 30, 1997.

(a) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph, and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and replacements may be made to the same standards as the original installation.

(b) The details of the system shall be in general agreement with NFPA 13–1996 insofar as is reasonable and practicable. Existing piping, pumping facilities, sprinkler heads, and operating devices may be retained provided a reasonable coverage of the spaces protected is assured.

[CGD 95–028, 62 FR 51204, Sept. 30, 1997]

Subpart 76.27—Electric Fire Detecting System, Details

§ 76.27–1 Application.

(a) Where an electric fire detecting system is installed, the provisions of this subpart, with the exception of § 76.27–90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.27–90.

(b) [Reserved]

§ 76.27–5 Zoning.

(a) The fire detecting system shall be divided into separate zones to restrict the area covered by any particular alarm signal.

(b) All spaces in a fire detecting zone shall be accessible from one to another without leaving the deck involved. All doors in watertight subdivision bulkheads and main vertical zone bulkheads shall be assumed closed for the purpose of this requirement.

(c) The fire detecting zone shall not include spaces on more than one deck, except:

(1) Adjacent and communicating spaces on different decks in the ends of the vessel having a combined ceiling area of not more than 3,000 square feet.

(2) Isolated rooms or lockers in such spaces as mast houses, wheelhouse top, etc., which are easily communicable with the area of the fire-detecting circuit to which they are connected.

(3) Systems with indicators for individual spaces.

(d) The fire detecting zone shall not contain more than 50 protected rooms or spaces.

§ 76.27–10 Location and spacing of detectors.

(a) The detectors shall be located close to the overhead in the space protected. Where liable to physical damage, the detector shall be suitably protected.

(b) Unless specifically approved otherwise, no spot on the overhead of a protected space shall be more than 10 feet from a detector. Where beams or

girders extend below the ceiling, or where the ceiling is installed at more than one level, the detectors shall be so located as to be most effective.

§ 76.27–15 Operation and installation.

(a) The system shall be so arranged and installed that the presence of a fire in any of the protected spaces will be automatically registered visibly and audibly in the pilothouse or fire control station. The visible notice shall indicate the zone in which the alarm originated. On vessels over 150 feet in length, there shall also be an audible alarm in the engine room.

(b) The detectors, the detecting cabinet and alarms shall be of an approved type.

(c) In general, the detectors, shall be rated not lower than 135 degrees F. and not higher than 165 degrees F. However, in spaces where a high ambient temperature may be expected, detectors shall be rated not lower than 175 degrees F. and not higher than 225 degrees F.

(d) The fire detecting system shall be used for no other purpose, except that it may be incorporated with the manual alarm system.

(e) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.

(f) A framed chart or diagram shall be installed in the wheelhouse or control station adjacent to the detecting cabinet indicating the location of the various detecting zones and giving instructions for the operation, maintenance, and testing of the system. This chart, or a separate card or booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(g) The audible alarms shall be identified as required by § 78.47–13 of this subchapter.

§ 76.27–90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and equipment previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph, and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.27–5 through 76.27–15 insofar as is reasonable and practicable.

(b) [Reserved]

Subpart 76.30—Pneumatic Fire Detecting System, Details

§ 76.30–1 Application.

(a) Where a pneumatic fire detecting system is installed, the provisions of this subpart, with the exception of § 76.30–90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.30–90.

(b) [Reserved]

§ 76.30–5 Zoning.

(a) The fire detecting system shall be divided into separate zones to restrict the area covered by any particular alarm signal.

(b) All spaces in a fire detecting zone shall be accessible from one to another without leaving the deck involved. All doors in watertight subdivision bulkheads and main vertical zone bulkheads shall be assumed closed for the purpose of this requirement.

(c) The fire detecting zone shall not include spaces on more than one deck, except:

(1) Adjacent and communicating spaces on different decks in the ends of the vessel, having a combined deck area of not more than 3,000 feet.

(2) Isolated rooms or lockers in such spaces as mast houses, wheelhouse top, etc., which are easily communicable with the area of the fire-detecting circuit to which they are connected.

(d) The fire detecting zone shall not include more than 50 protected rooms or spaces.

(e) Individual tubing circuits shall not contain more than 1,000 feet of pneumatic tubing or its equivalent. However, more than one tubing circuit

may be included in the same fire detecting zone.

§ 76.30–10 Location and spacing of tubing.

(a) The tubing shall be located on the overhead or within 12 inches of the overhead on the bulkheads. Where liable to physical damage, the tubing shall be suitably protected.

(b) In each enclosed space or separate room there shall be exposed at least 5 percent of the total length of tubing in that circuit, but in no case shall the amount be less than 25 feet.

(c) No spot on the overhead of a protected space shall be more than 12 feet from the nearest point of tubing. Where beams or girders extend below the ceiling, or where the ceiling is installed at more than one level, the tubing shall be so located as to be most effective.

§ 76.30–15 Operation and installation.

(a) The system shall be so arranged and installed that the presence of a fire in any of the protected spaces will automatically be registered visibly and audibly in the pilothouse or fire control station. The visible notice shall automatically indicate the zone in which the alarm originated. On vessels over 150 feet in length, there shall also be an audible alarm in the engine room.

(b) The tubing or detecting devices, pneumatic-electric converting units, detecting cabinets, and alarms shall be of an approved type.

(c) In general, the system shall be adjusted to operate at a temperature rise of approximately 40 degrees F. per minute at the center of the circuit.

(d) The fire detecting system shall be used for no other purpose except that it may be incorporated with the manual alarm system.

(e) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.

(f) A framed chart or diagram shall be installed in the wheelhouse or control station adjacent to the detecting cabinet indicating the location of the various detecting zones and giving instructions for the operation, maintenance, and testing of the system. This chart, or a separate card or booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(g) The audible alarms shall be identified as required by § 78.47–13 of this subchapter.

§ 76.30–90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and equipment previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.30–5 through 76.30–15 insofar as is reasonable and practicable.

(b) [Reserved]

Subpart 76.33—Smoke Detecting System, Details

§ 76.33–1 Application.

(a) Where a smoke detecting system is installed, the provisions of this subpart, with the exception of § 76.33–90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.33–90.

(b) [Reserved]

§ 76.33–5 Zoning.

(a) The smoke detecting system shall be divided into separate zones to restrict the area covered by any particular alarm signal.

(b) The smoke detecting zone shall not include spaces on more than one deck, except the small adjacent spaces mentioned in paragraph (c) of this section.

(c) Each separate space shall be considered as a zone, except that two or three small adjacent spaces having a combined volume not exceeding 5,000

cubic feet may be connected on the same zone.

(d) Where a space is of such size that one accumulator is not sufficient, not more than two accumulators may be combined in one zone.

§ 76.33–10 Location and spacing of accumulators.

(a) Smoke accumulators shall be located overhead in each compartment. Where liable to physical damage, the accumulators and piping shall be suitably protected.

(b) No spot on the overhead of a protected space shall be more than 40 feet from an accumulator.

(c) Accumulators shall not be located closer to the opening of a ventilator than three times the diameter or equivalent diameter of the opening.

§ 76.33–15 Piping.

(a) Individual pipes shall be not less than ¾-inch standard pipe size.

(b) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved otherwise by the Commandant.

(c) Where a smoke detecting system serves a space used alternately for liquid and dry cargo, a valve shall be installed between the tank and the detecting cabinet so that the line may be shut off when liquids are carried. When the smoke detecting system is combined with a fire extinguishing system, the operation of the valve shall not affect the operation of the fire extinguishing system.

(d) All piping, valves, and fittings shall be securely supported, and where necessary, protected against injury. The piping shall be installed with as easy bends as practicable, and shall be installed to grade to low points for drainage.

(e) Drains and dirt tapes shall be fitted where necessary to prevent the accumulation of dirt or moisutre.

§ 76.33–20 Operation and installation.

(a) The system shall be so arranged and installed that the presence of smoke in any of the protected spaces will automatically be indicated visually to an observer directly in front of the detecting cabinet. The visible notice shall automatically indicate the zone in which the smoke originated. The detecting cabinet shall normally be located in the pilothouse or fire control station. On vessels over 5,000 gross tons, there shall also be an automatic audible alarm in the wheelhouse together with an auxiliary audible alarm in the engine room.

(b) If the detecting cabinet is not located in the pilothouse or fire control station, it shall be located in convenient proximity to the valve control station of the extinguishing system. In this case, there shall be in the pilothouse or fire control station automatic visual alarms, one for each zone in which an alarm may originate, as well as an automatic audible alarm. There shall also be an auxiliary audible alarm in the engine room. For installations contracted for on or after January 1, 1962, where detecting cabinets are not located in the pilothouse or an adjacent fire control station having direct access to the pilothouse, an efficient means of direct communication shall be provided between the pilothouse and the stations where the detecting cabinets are located.

(c) A sufficient quantity of exhaust from the detecting cabinet shall be discharged in the vicinity of the cabinet to permit the detection of fire by odor. A valve shall be installed in such space to direct the exhaust, if obnoxious, to the outside.

(d) The smoke detecting system shall be used for no other purpose except that it may be incorporated with the fire extinguishing system to the spaces covered by the smoke detecting system.

(e) The accumulators, detecting cabinet, interconnecting valves with the fire extinguishing system, alarms, and indicating devices shall be of an approved type.

(f) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.

(g) A framed chart or diagram shall be installed adjacent to the detecting cabinet and auxiliary panel indicating the location of the various zones and giving instructions for the operation, maintenance, and testing of the system. The chart at the cabinet location

or a separate card or booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(h) The audible smoke detecting alarms shall be identified as required by § 78.47–13 of this subchapter.

§ 76.33–90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, material, and equipment previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.33–5 through 76.33–15 insofar as is reasonable and practicable.

(b) [Reserved]

Subpart 76.35—Manual Alarm System, Details

§ 76.35–1 Application.

(a) Where a manual alarm system is installed, the provisions of this subpart, with the exception of § 76.35–90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.35–90.

(b) [Reserved]

§ 76.35–5 Zoning.

(a) The zoning of the manual alarm system shall meet the same requirements as for the electric fire detecting system, § 76.27–5.

(b) [Reserved]

§ 76.35–10 Location and spacing of manual alarm boxes.

(a) There shall be at least one manual alarm box in each zone.

(b) Manual alarms shall be located in main passageways, stairway enclosures, public spaces, or similar locations where they will be readily available and easily seen in case of need.

(c) In general, a sufficient number of manual alarm boxes shall be employed that a person escaping from any space would find a manual alarm box convenient on his normal route of escape.

§ 76.35–15 Operation and installation.

(a) The system shall be so arranged and installed that the presence of a fire may be reported from any of the protected spaces and be automatically registered visibly and audibly in the pilothouse or fire control station. The visible notice shall indicate the zone in which the alarm originated. There shall also be an audible alarm in the engine room.

(b) The manual alarm boxes, cabinet, and alarms shall be of an approved type.

(c) The manual alarm system shall be used for no other purpose, except that it may be incorporated with the fire detecting system.

(d) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.

(e) A framed chart or diagram shall be installed in the wheelhouse or control station adjacent to the detecting cabinet indicating the location of the various detecting zones and giving instructions for the operation, maintenance, and testing of the system. This chart, or a separate booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(f) The manual alarm boxes and bells shall be identified as required by § 78.47–10 of this subchapter.

§ 76.35–90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and equipment previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph, and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and

alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.35–5 through 76.35–15 insofar as is reasonable and practicable.

(b) [Reserved]

Subpart 76.50—Hand Portable Fire Extinguishers and Semiportable Fire Extinguishing Systems, Arrangements and Details

§ 76.50–1 Application.

(a) The provisions of this subpart, with the exception of § 76.50–90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 76.50–90.

(b) [Reserved]

§ 76.50–5 Classification.

(a) Hand portable fire extinguishers and semiportable fire extinguishing systems shall be classified by a combination letter and number symbol, the letter indicating the type of fire which the unit could be expected to extinguish, and the number indicating the relative size of the unit.

(b) The types of fire will be designated as follows:

(1) ''A'' for fires in ordinary combustible materials where the quenching and cooling effects of quantities of water, or solutions containing large percentages of water, are of first importance.

(2) ''B'' for fires in flammable liquids, greases, etc., where a blanketing effect is essential.

(3) ''C'' for fires in electrical equipment where the use of nonconducting extinguishing agent is of first importance.

(c) The number designations for size will start with ''I'' for the smallest to ''V'' for the largest. Sizes I and II are considered hand portable fire extinguishers and sizes III, IV and V are considered semiportable fire extinguishing systems which shall be fitted with suitable hose and nozzle or other practicable means so that all portions of the space concerned may be covered. Examples of size graduations for some of the typical hand portable and semiportable fire extinguishing systems are set forth in table 76.50–5(c).

TABLE 76.50–5(c)

Classification		Soda acid and water, gallons	Foam, gallons	Carbon dioxide, pounds	Dry chemical, pounds
Type	Size				
A	II	2½	2½	.....	.....
B	I	.....	1¼	4	.....
B	II	.....	2½	15	10
B	III	.....	12	35	20
B	IV	.....	20	50	30
B	V	.....	40	100	50
C	I	.....	.....	4	2
C	II	.....	.....	15	10

(d) All hand portable fire extinguishers and semiportable fire extinguishing systems shall have permanently attached thereto a metallic name plate giving the name of the item, the rated capacity in gallons, quarts, or pounds, the name and address of the person or firm for whom approved, and the identifying mark of the actual manufacturer.

(e) Vaporizing-liquid type fire extinguishers, containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids shall be removed from all vessels.

§ 76.50–10 Location.

(a) Approved hand portable fire extinguishers and semiportable fire extinguishing systems shall be installed in accordance with table 76.50–10(a).

TABLE 76.50–10(a)

Space	Hand portable fire extinguisher and semiportable fire extinguishing systems	
	Classification (see § 76.50–5)	Quantity and location
Safety area [1]		
Wheelhouse or fire control room	A–II, B–II, C–II.	1 of each classification on vessels over 1,000 gross tons. (Not required in both spaces.) (Multiple classification may be recognized.)
Stairway and elevator enclosures		None required.
Communicating corridors	A–II	1 in each main corridor in each main vertical zone. (May be located in stairway enclosures.)
Lifeboat embarkation and lowering stations		None required.
Radio room	C–I [3]	2 in vicinity of exit.[2]
Accommodations [1]		
Staterooms, toilet spaces, isolated pantries, etc.		None required.
Offices, lockers, and isolated storerooms		Do.
Public spaces	A–II	1 for each 2,500 square feet or fraction thereof located in vicinity of exits, except that none required for spaces under 500 square feet.
Open decks or enclosed promenades		None required.
Service spaces		
Galleys	B–II or C–II	1 for each 2,500 square feet or fraction thereof suitable for hazards involved.
Main pantries	A–II	1 for each 2,500 square feet or fraction thereof located in vicinity of exits.
Motion picture booths and film lockers	C–I [3]	1 outside in vicinity of exit.
Paint and lamp rooms	B–II	1 outside space in vicinity of exit.
Inaccessible baggage, mail, and specie rooms, and storerooms.		None required.
Accessible baggage, mail, and specie rooms, and storerooms.	A–II	1 for each 2,500 square feet or fraction thereof located in vicinity of exits, either inside or outside the spaces.
Refrigerated storerooms	A–II	1 for each 2,500 square feet or fraction thereof located in vicinity of exits, outside the spaces.
Carpenter, valet, photographic, printing shops sales rooms, etc.	A–II	1 outside the space in vicinity of exit.
Machinery spaces		
Coal Fired Boilers: Bunker and boilerspace		None required.
Oil Fired Boilers: Spaces, containing oil fired boilers, either main or auxiliary, or their fuel oil units.	B–II, B–V	2 required.[3]1 required.[4]
Internal combustion or gas turbine propelling machinery spaces.	B–II	1 for each 1,000 B. H. P., but not less than 2 or more than 6.
	B–III	1 required.[5]
Electric propulsive motors or generators of open type.	C–II	1 for each propulsion motor or generator unit.
Enclosed ventilating systems for motors and generators of electric propelling machinery.		None required.
Auxiliary spaces, internal combustion or gas turbine.	B–II	1 outside the space in vicinity of exit.[6]
Auxiliary spaces, electric emergency motors or generators.	C–II	Do.
Auxiliary spaces, steam		None required.
Trunks to machinery spaces		Do.
Fuel tanks		Do.
Cargo spaces		
Inaccessible during voyage, including trunks (excluding tanks).		Do.
Accessible during voyage	A–II	1 for each 1,200 square feet or fraction thereof.
Vehicular spaces (covered by sprinkler system)	B–II	1, plus 1 for each 6,000 square feet or fraction thereof:
Vehicular spaces (not covered by sprinkler system).	B–II	1, plus 1 for each 1,500 square feet or fraction thereof.[7]
Cargo oil tanks		None required.

[1] In any case, on vessels of 150 feet in length, and over, there shall be at least 2 A–II units on each passenger deck.
[2] For vessels on an international voyage, substitute 1 C–II in vicinity of exit.
[3] Vessels of less than 1,000 gross tons and not on an international voyage, require 1.
[4] Vessels of less than 1,000 gross tons and not on an international voyage may substitute 1 B–IV.

[5] If oil burning donkey boiler fitted in space, the B–V previously required for the protection of the boilerroom may be substituted. Not required on vessels of less than 300 gross tons if fuel has flashpoint of 110 °F. or lower except those on an international voyage.
[6] Not required on vessels of less than 300 gross tons if fuel has flashpoint higher than 110 °F.
[7] B–I units may be substituted for 1 B–II unit.

The location of the equipment shall be to the satisfaction of the Officer in Charge, Marine Inspection. Nothing in this paragraph shall be construed as limiting the Officer in Charge, Marine Inspection, from requiring such additional equipment as he deems necessary for the proper protection of the vessel.

(b) Semiportable fire extinguishing systems shall be located in the open so as to be readily seen.

(c) If hand portable fire extinguishers are not located in the open or behind glass so that they may be readily seen, they may be placed in enclosures together with the fire hose, provided such enclosures are marked as required by § 78.47–20 of this subchapter.

(d) Hand portable fire extinguishers and their stations shall be numbered in accordance with § 78.47–30 of this subchapter.

(e) Hand portable or semiportable extinguishers, which are required on their nameplates to be protected from freezing, shall not be located where freezing temperatures may be expected.

[CGFR 65–50, 30 FR 10940, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15283, Dec. 6, 1966]

§ 76.50–15 Spare charges.

(a) Spare charges shall be carried on all vessels for at least 50 percent of each size and each variety, i.e., foam, soda-acid, carbon dioxide, etc., of hand portable fire extinguisher required by § 76.50–10(a). However, if the unit is of such variety that it cannot be readily recharged by the vessel's personnel, one spare unit of the same classification shall be carried in lieu of spare charges for all such units of the same size and variety.

(b) Spare charges shall be so packaged as to minimize the hazards to personnel while recharging the units. Acid shall be contained in a Crown stopper type of bottle.

§ 76.50–20 Semiportable fire extinguishers.

(a) The frame or support of each size III, IV, and V fire extinguisher required by table 76.50–10(a) must be welded or otherwise permanently attached to a bulkhead or deck.

(b) If an approved size III, IV, or V fire extinguisher has wheels and is not required by table 76.50–10(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 34132, June 14, 1979]

§ 76.50–90 Vessels contracted for prior to November 19, 1952.

(a) Vessels contracted for prior to November 19, 1952, shall meet the following requirements:

(1) The provisions of §§ 76.50–5 through 76.50–15 shall be met with the exception that existing installations in safety areas, accommodations, service spaces, and cargo spaces may be maintained if in the opinion of the Officer in Charge, Marine Inspection, they are in general agreement with the standard of safety prescribed by table 76.50–10(a). In such cases, minor modifications may be made to the same standards as the original installation, provided that in no case will a greater departure from the standards of table 76.50–10(a) be permitted than presently exists.

(2) [Reserved]

(b) [Reserved]

Subpart 76.60—Fire Axes

§ 76.60–1 Application.

(a) The provisions of this subpart shall apply to all vessels.

(b) [Reserved]

§ 76.60–5 Number required.

(a) All vessels except barges shall carry at least the minimum number of fire axes as set forth in table 76.60–5(a). Nothing in this paragraph shall be construed as limiting the Officer in Charge, Marine Inspection, from requiring such additional fire axes as he

deems necessary for the proper protection of the vessel.

TABLE 76.60–5(a)

Gross tons		Number of axes
Over	Not over	
.....	50	1
50	200	2
200	500	4
500	1,000	6
1,000	.....	8

(b) Covered barges shall carry at least three fire axes and uncovered barges shall carry at least two fire axes.

§ 76.60–10 Location.

(a) Fire axes shall be distributed throughout the spaces available to passengers and crew so as to be most readily available in the event of emergency.

(b) If fire axes are not located in the open or behind glass so that they may be readily seen, they may be placed in enclosures together with the fire hose, provided such enclosures are marked as required by § 78.47–20 of this subchapter.

PART 77—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

Subpart 77.01—Application

Sec.
77.01–1 General.
77.01–3 Incorporation by reference.

Subpart 77.03—Marine Engineering Systems

77.03–1 Installation and details.

Subpart 77.05—Electrical Engineering and Interior Communication Systems

77.05–1 Installation and details.

Subpart 77.06—Lifesaving Appliances and Arrangements

77.06–1 Installation.

Subpart 77.07—Anchors, Chains, and Hawsers

77.07–1 Application.
77.07–5 Ocean, coastwise, or Great Lakes service.
77.07–10 Lakes, bays, and sounds, or river service.
77.07–90 Vessels contracted for prior to November 19, 1952.

Subpart 77.09—Radar

77.09–1 When required.

Subpart 77.11—Magnetic Compass and Gyrocompass

77.11–1 When required.

Subpart 77.27—Sounding Equipment

77.27–1 When required.

Subpart 77.30—Emergency Equipment

77.30–1 Application.
77.30–5 General.
77.30–10 Stowage.
77.30–15 Spare charges.
77.30–90 Vessels contracted for before November 23, 1992.

Subpart 77.35—Fireman's Outfit

77.35–1 Application.
77.35–5 General.
77.35–10 Fireman's outfit.
77.35–15 Stowage.
77.35–20 Spare charges.
77.35–90 Vessels contracted for before November 23, 1992.

Subpart 77.40—Pilot Boarding Equipment

77.40–1 Pilot boarding equipment.

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

SOURCE: CGFR 65–50, 30 FR 16953, Dec. 30, 1965, unless otherwise noted.

Subpart 77.01—Application

§ 77.01–1 General.

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

(b) [Reserved]

§ 77.01–3 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 the 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, Washington, DC 20408, and at the U.S. Coast Guard, Office of Design and Engineering Standards (G–MSE), 2100 Second Street SW., Washington, DC 20593–0001, and is available from the address indicated in paragraph (b).

(b) The material approved for incorporation by reference in this part, and the sections affected is:

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

ASTM F 1014–92, Standard Specification for Flashlights on Vessels—77.35–5

[CGD 82–042, 53 FR 17704, May 18, 1988, as amended by CGD 95–072, 60 FR 50463, Sept. 29, 1995; CGD 96–041, 61 FR 50729, Sept. 27, 1996; CGD 97–057, 62 FR 51045, Sept. 30, 1997; USCG–1999–5151, 64 FR 67181, Dec. 1, 1999]

Subpart 77.03—Marine Engineering Systems

§ 77.03–1 Installation and details.

(a) The installation of all systems of a marine engineering nature, together with the details of design, construction, and installation, shall be in accordance with the requirements of subchapter F (Marine Engineering) of this chapter. Systems of this type include the following:

Steering systems.
Power for going astern.
Bilge and ballast systems.
Tank vent and sounding systems.
Overboard discharges and shell connections.
Pipe and pressure systems.

(b) [Reserved]

Subpart 77.05—Electrical Engineering and Interior Communication Systems

§ 77.05–1 Installation and details.

(a) The installation of all systems of an electrical engineering or interior communications nature, together with the details of design, construction, and installation, shall be in accordance with the requirements of subchapter J (Electrical Engineering) of this chapter. Systems of this type include the following:

Ship's service generating systems.
Ship's service power distribution systems.
Ship's lighting systems.
Electric propulsion and propulsion control systems.
Emergency lighting and power systems.
Electric lifeboat winch systems.
Electric steering gear and steering control systems.
Fire detecting and alarm systems
Sound powered telephone and voice tube systems.
Engine order telegraph systems.
Rudder angle indicator systems.
Refrigerated spaces alarm systems.
Navigation lights systems.
Daylight signaling lights.
Miscellaneous machinery alarms and controls.
General alarm systems.

(b) Electrical equipment installed in spaces ''specially suitable for vehicles'' shall be in accordance with subchapter J (Electrical Engineering) of this chapter.

[CGFR 65–50, 30 FR 16953, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15283, Dec. 6, 1966; CGFR 68–32, 33 FR 5716, Apr. 12, 1968; CGD 74–125A, 47 FR 15231, Apr. 8, 1982]

Subpart 77.06—Lifesaving Appliances and Arrangements

§ 77.06–1 Installation.

The installation of all lifesaving appliances and arrangements must be in accordance with the requirements of subchapter W (Lifesaving Appliances and Arrangements) of this chapter.

[CGD 84–069, 61 FR 25288, May 20, 1996]

Subpart 77.07—Anchors, Chains, and Hawsers

§ 77.07–1 Application.

(a) The provisions of this subpart, with the exception of § 77.07–90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 77.07–90.

(b) [Reserved]

§ 77.07–5 Ocean, coastwise, or Great Lakes service.

(a) Vessels in ocean, coastwise, or Great Lakes service shall be fitted with anchors, chains, and hawsers in general

agreement with the standards established by the American Bureau of Shipping, see subpart 70.35 of this subchapter.

(b) In addition to the provisions of paragraph (a) of this section, the following requirements and alternatives also apply:

(1) The American Bureau of Shipping rules relating to anchor equipment are mandatory, not a guide.

(2) Vessels under 200 feet (61 meters) in length and with an American Bureau of Shipping equipment number of less than 150 may be equipped with either—

(i) One anchor of the tabular weight and one-half the tabulated length of anchor chain listed in the applicable standard, or

(ii) Two anchors of one-half the tabular weight with the total length of anchor chain listed in the applicable standard provided both anchors are in a position that allows for ready use at all times and the windlass is capable of heaving in either anchor.

(c) Standards of other recognized classification societies may be used, in lieu of those established by the American Bureau of Shipping, upon approval by the Commandant.

[CGFR 65–50, 30 FR 16953, Dec. 30, 1965, as amended by CGD 87–013, 53 FR 20624, June 6, 1988]

§ 77.07–10 Lakes, bays, and sounds, or river service.

(a) Vessels in lakes, bays, and sounds, or river service 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 and the waters on which it operates.

(b) [Reserved]

§ 77.07–90 Vessels contracted for prior to November 19, 1952.

(a) Vessels contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Installations previously accepted or approved shall be considered satisfactory for the same service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. If the service of the vessel is changed, the suitability of the equipment will be established by the Officer in Charge, Marine Inspection.

(2) [Reserved]

(b) [Reserved]

Subpart 77.09—Radar

§ 77.09–1 When required.

All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a marine radar system for surface navigation. Facilities for plotting radar readings must be provided on the bridge.

[CGD 75–074, 42 FR 5963, Jan. 31, 1977]

Subpart 77.11—Magnetic Compass and Gyrocompass

§ 77.11–1 When required.

(a) All mechanically propelled vessels in ocean, coastwise or Great Lakes service must be fitted with a magnetic compass.

(b) All mechanically propelled vessels 1,600 gross tons and over in ocean or coastwise service must be fitted with a gyrocompass in addition to the magnetic compass.

(c) Each vessel must have an illuminated repeater for the gyrocompass required under paragraph (b) of this section, that is at the main steering stand unless the gyrocompass is illuminated and is at the main steering stand.

[CGD 75–074, 42 FR 5963, Jan. 31 1977]

Subpart 77.27—Sounding Equipment

§ 77.27–1 When required.

All mechanically propelled vessels of 500 gross tons and over to ocean or coastwise service, and all mechanically propelled vessels of 500 gross tons and over in Great Lakes service and certificated for service on the River St. Lawrence eastward of the lower exit of the St. Lambert Lock at Montreal, Canada, must be fitted with an efficient electronic deep-sea sounding apparatus.

[CGD 95–027, 61 FR 26004, May 23, 1996]

Subpart 77.30—Emergency Equipment

§ 77.30–1 Application.

This subpart, except § 77.30–90, applies to each vessel that is not on an international voyage and is contracted for on or after November 23, 1992. Each vessel that is not on an international voyage and is contracted for before November 23, 1992, must satisfy § 77.30–90.

[CGD 86–036, 57 FR 48324, Oct. 23, 1992]

§ 77.30–5 General.

(a) Each self-contained breathing apparatus must be of the pressure-demand, open-circuit type, approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH), and have at a minimum a 30-minute air supply and a full facepiece.

(b) The self-contained breathing apparatus required as part of the emergency outfit may be used as protection against gas leaking from a refrigeration unit.

(c) All flame safety lamps shall be of an approved type, constructed in accordance with subpart 160.016 of subchapter Q (Specifications) of this chapter.

(d) All emergency equipment shall be maintained in an operative condition, and it shall be the responsibility of the master and chief engineer to ascertain that a sufficient number of the crew are familiar with the operation of the equipment.

[CGFR 65–50, 30 FR 16953, Dec. 30, 1965, as amended by CGD 86–036, 57 FR 48324, Oct. 23, 1992]

§ 77.30–10 Stowage.

(a) The equipment set forth in table 77.30–10(a), together with such other items as the master may deem necessary, shall be stowed in convenient, accessible locations for use in case of emergency.

TABLE 77.30–10(a)

Service	Number of passenger staterooms	Self-contained breathing apparatus	Self-contained breathing apparatus for refrigeration [1]	Flame safety lamps
Ocean and coastwise, not on an international voyage	0 to 49	.....	1	.....
	50 to 100	4	1	.....
	Over 100	6	1	1
Great Lakes, and lakes, bays, and sounds	0 to 49	.....	1	.....
	50 to 100	2	1	.....
	Over 100	4	1	1
Rivers	0 to 49	.....	1	.....
	50 to 100	1	1	.....
	Over 100	2	1	1

[1] Required only on vessels equipped with any refrigeration unit using ammonia to refrigerate any space with a volume of more than 20 cubic feet or with any refrigeration unit using fluorocarbons to refrigerate any space with a volume of more than 1000 cubic feet.

(b) If a separate self-contained breathing apparatus is maintained for protection against gas leaking from a refrigeration unit, it must be stowed convenient to, but outside of, the spaces containing the refrigeration equipment.

(c) Half of the remaining equipment set forth in table 77.30–10(a) shall be stowed in or near the pilothouse together with a fire axe and the hand portable fire extinguishers required by table 76.50–10(a) for that location. The other half of the equipment shall be stowed in a convenient accessible location, remote from the pilothouse, and preferably adjacent to the main entrance to the machinery space. Where only one of an item is required, it shall be stowed in the pilothouse.

[CGFR 65–50, 30 FR 16953, Dec. 30, 1965, as amended by CGD 86–036, 57 FR 48324, Oct. 23, 1992]

§ 77.30–15 Spare charges.

(a) A complete recharge shall be carried for each gas mask and self-contained breathing apparatus. The spare charge shall be stowed in the same location as the equipment it is to reactivate.

(b) [Reserved]

§ 77.30–90 Vessels contracted for before November 23, 1992.

Vessels contracted for before November 23, 1992, must meet the following requirements:

(a) Each vessel must satisfy §§ 77.30–5 through 77.30–15 concerning the number of items and the method of stowage of equipment.

(b) Items of equipment previously approved, but not meeting the applicable specifications set forth in § 77.30–5, may continue in service as long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection; but each item in an installation or a replacement must meet all applicable specifications.

(c) After November 23, 1994, each respirator must either satisfy § 77.30–5(a) or be a self-contained compressed-air breathing apparatus previously approved by MSHA and NIOSH under part 160, subpart 160.011, of this chapter.

[CGD 86–036, 57 FR 48324, Oct. 23, 1992]

Subpart 77.35—Fireman's Outfit

§ 77.35–1 Application.

This subpart, except § 77.35–90, applies to each vessel that is on an international voyage and is contracted for on or after November 23, 1992. Each vessel that is on an international voyage and is contracted for before November 23, 1992, must satisfy § 77.35–90.

[CGD 86–036, 57 FR 48325, Oct. 23, 1992]

§ 77.35–5 General.

(a) All flame safety lamps shall be of an approved type, constructed in accordance with subpart 160.016 of subchapter Q (Specifications) of this chapter.

(b) Each self-contained breathing apparatus must be of the pressure-demand, open-circuit type, approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH), and have at a minimum a 30-minute air supply and a full facepiece.

(c) Flashlights shall be Type II or Type III, constructed and marked in accordance with ASTM F 1014 (incorporated by reference, see § 77.01–3).

(d) All lifelines shall be of steel or bronze wire rope. Steel wire ropes shall be either inherently corrosion resistent, or made so by galvanizing or tinning. Each end shall be fitted with a hook with keeper having throat opening which can be readily slipped over a ⅝-inch bolt. The total length of the lifeline shall be dependent upon the size and arrangement of the vessel, and more than one line may be hooked together to achieve the necessary length. No individual length of lifeline may be less than 50 feet in length. The assembled lifeline shall have a minimum breaking strength of 1,500 pounds.

(e) All equipment shall be maintained in an operative condition, and it shall be the responsibility of the master and chief engineer to ascertain that a sufficient number of the crew are familiar with the operation of the equipment.

(f) Boots and gloves shall be of rubber or other electrically nonconducting material.

(g) The helmet shall provided effective protection against impact.

(h) Protective clothing shall be of material that will protect the skin from the heat of fire and burns from scalding steam. The outer surface shall be water resistant.

[CGFR 65–50, 30 FR 16953, Dec. 30, 1965, as amended by CGFR 67–87, 32 FR 19181, Dec. 20, 1967; CGD 82–042, 53 FR 17704, May 18, 1988; CGD 86–036, 57 FR 48325, Oct. 23, 1992; USCG–1999–5151, 64 FR 67181, Dec. 1, 1999]

§ 77.35–10 Fireman's outfit.

(a) Each fireman's outfit must consist of one self-contained breathing apparatus, one lifeline with a belt or a suitable harness, one flashlight, one flame safety lamp, one rigid helmet, boots and gloves, protective clothing, and one fire ax. In lieu of the flame safety lamp, vessels may carry an oxygen depletion meter which is listed by

a Coast Guard recognized independent laboratory as intrinsically safe.

(b) The number of fireman's outfits required are as set forth in table 77.35–10(b).

TABLE 77.35–10(b)

Gross tonnage		Minimum number of fireman's outfits
Over—	Not over—	
.....	10,000	2
10,000	20,000	3
20,000	.....	4

[CGFR 65–50, 30 FR 16953, Dec. 30, 1965, as amended by CGFR 67–87, 32 FR 19181, Dec. 20, 1967; CGD 86–036, 57 FR 48325, Oct. 23, 1992; CGD 95–028, 62 FR 51204, Sept. 30, 1997]

§ 77.35–15 Stowage.

(a) The fireman's outfit, together with such other items of equipment as the master may deem necessary, shall be stowed in convenient, accessible locations for use in case of emergency. One outfit shall be stowed in or near the pilothouse. Where additional outfits are required by table 77.35–10(b), one of the additional outfits shall be stowed preferably adjacent to the main entrance to the machinery space. Other additional outfits shall be stowed in convenient accessible locations remote from the pilothouse.

(b) [Reserved]

§ 77.35–20 Spare charges.

(a) A complete recharge shall be carried for each self-contained breathing apparatus, and a complete set of spare batteries shall be carried for each flashlight. The spares shall be stowed in the same location as the equipment it is to reactivate.

(b) [Reserved]

§ 77.35–90 Vessels contracted for before November 23, 1992.

Vessels contracted for before November 23, 1992, must meet the following requirements:

(a) Each vessel must satisfy §§ 77.35–5 through 77.35–20 concerning the number of items and the method of stowage of equipment.

(b) Items of equipment previously approved, but not meeting the applicable specifications set forth in § 77.35–5, may continue in service as long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection; but each item in an installation or a replacement must meet all applicable specifications.

(c) After November 23, 1994, each respirator must either satisfy § 77.35–5(b) or be a self-contained compressed-air breathing apparatus previously approved by MSHA and NIOSH under part 160, subpart 160.011, of this chapter.

[CGD 86–036, 57 FR 48325, Oct. 23, 1992]

Subpart 77.40—Pilot Boarding Equipment

§ 77.40–1 Pilot boarding equipment.

(a) This section applies to each vessel that normally embarks or disembarks a pilot from a pilot boat or other vessel.

(b) Each vessel must have suitable pilot boarding equipment available for use on each side of the vessel. If a vessel has only one set of equipment, the equipment must be capable of being easily transferred to and rigged for use on either side of the vessel.

(c) Pilot boarding equipment must be capable of resting firmly against the vessel's side and be secured so that it is clear from overboard discharges.

(d) Each vessel must have lighting positioned to provide adequate illumination for the pilot boarding equipment and each point of access.

(e) Each vessel must have a point of access that has—

(1) A gateway in the rails or bulwark with adequate handholds; or

(2) Two handhold stanchions and a bulwark ladder that is securely attached to the bulwark rail and deck.

(f) The pilot boarding equipment required by paragraph (b) of this section must include at least one pilot ladder approved under subpart 163.003 of this chapter. Each pilot ladder must be of a single length and capable of extending from the point of access to the water's edge during each condition of loading and trim, with an adverse list of 15°.

(g) Whenever the distance from the water's edge to the point of access is more than 30 feet, access from a pilot ladder to the vessel must be by way of

an accommodation ladder or equally safe and convenient means.

(h) Pilot hoists, if used, must be approved under subpart 163.002 of this chapter.

[CGD 79–032, 49 FR 25455, June 21, 1984]

PART 78—OPERATIONS

Subpart 78.01—Application

Sec.
78.01–1 General.
78.01–2 Incorporation by reference.

Subpart 78.05—Notice to Mariners and Aids to Navigation

78.05–1 Duty of officers.
78.05–5 Charts and nautical publications.

Subpart 78.07—Notice and Reporting of Casualty and Voyage Records

78.07–1 Notice and reporting of casualty and voyage records.

Subpart 78.10—Persons Allowed in Pilothouse and on Navigation Bridge

78.10–1 Persons excluded.

Subpart 78.12–Stability Information

78.12–1 Posting of stability letter.

Subpart 78.13—Station Bills

78.13–1 Muster lists, emergency signals, and manning.

Subpart 78.15—Doors Closed at Sea

78.15–1 Subdivision bulkheads.

Subpart 78.16—Port Lights

78.16–1 General.

Subpart 78.17—Tests, Drills, and Inspections

78.17–1 Application.
78.17–3 Watertight doors.
78.17–5 Valves and closing appliances.
78.17–10 Loudspeaker system.
78.17–15 Steering gear, whistle, and means of communication.
78.17–20 Drafts and load line markings.
78.17–22 Verfication of vessel compliance with applicable stability requirements.
78.17–25 Sanitation.
78.17–30 Examination of boilers and machinery.
78.17–33 Loading doors.
78.17–35 Hatches and other openings.
78.17–45 Emergency lighting and power systems.
78.17–50 Emergency training, musters, and drills.
78.17–65 Smoke detecting system.
78.17–75 Requirements for fuel oil.
78.17–80 Firefighting equipment, general.

Subpart 78.19—Auto Pilot

78.19–1 Use of auto pilot.

Subpart 78.21—Maneuvering Characteristics

78.21–1 Data required.

Subpart 78.23—Whistling

78.23–1 Unnecessary whistling prohibited.

Subpart 78.27—Searchlights

78.27–1 Improper use prohibited.

Subpart 78.30—Lookouts, Pilothouse Watch, Patrolmen, and Watchmen

78.30–5 Pilothouse watch.
78.30–10 Supervised patrol.
78.30–15 Watchmen.
78.30–20 Master's and officer's responsibility.

Subpart 78.33—Reports of Accidents, Repairs, and Unsafe Equipment

78.33–1 Repairs of boiler and pressure vessels.
78.33–5 Accidents to machinery.
78.33–10 Notice required before repairs.

Subpart 78.35—Communication Between Deckhouses

78.35–1 When required.

Subpart 78.36—Work Vests

78.36–1 Application.
78.36–5 Approved types of work vests.
78.36–10 Use.
78.36–15 Shipboard stowage.
78.36–20 Shipboard inspections.
78.36–25 Additional requirements for hybrid work vests.

Subpart 78.37—Logbook Entries

78.37–1 Application.
78.37–3 Logbooks and records.
78.37–5 Actions required to be logged.
78.37–10 Official log entries.

Subpart 78.40—Vehicular Ferries

78.40–1 Stowage of vehicles.
78.40–5 Securing of vehicles.
78.40–10 No smoking permitted.

Subpart 78.45—Display of Plans

78.45–1 When required.

Subpart 78.47—Markings for Fire and Emergency Equipment, Etc.

78.47–1 Application.
78.47–3 General.
78.47–5 General alarm contact makers.
78.47–7 General alarm bells.
78.47–9 Carbon dioxide alarm.
78.47–10 Manual alarm boxes.
78.47–13 Fire detecting and manual alarm, automatic sprinkler, and smoke detecting alarm bells.
78.47–15 Fire extinguishing system branch lines.
78.47–17 Fire extinguishing system controls.
78.47–20 Fire hose stations.
78.47–23 Supervised patrol stations.
78.47–25 Emergency squad equipment.
78.47–27 Self-contained breathing apparatus.
78.47–30 Hand portable fire extinguishers.
78.47–33 Emergency lights.
78.47–35 Fire doors.
78.47–37 Watertight doors.
78.47–38 Valves and closing appliances.
78.47–40 Exit signs.
78.47–45 Markings for lifesaving appliances, instructions to passengers, and stowage locations.
78.47–53 Automatic ventilation dampers.
78.47–55 Instructions for changing steering gear.
78.47–57 Rudder orders.
78.47–70 Portable magazine chests.
78.47–75 Ventilation alarm failure.
78.47–90 Vessels contracted for prior to November 19, 1952.

Subpart 78.50—Markings on Vessels

78.50–1 Application.
78.50–5 Hull markings.
78.50–10 Draft marks and draft indicating systems.
78.50–15 Load line marks.

Subpart 78.55—Carrying of Excess Steam

78.55–1 Master and chief engineer responsible.

Subpart 78.57—Routing Instructions

78.57–1 All personnel must comply.

Subpart 78.60—Compliance With Provisions of Certificate of Inspection

78.60–1 Master or person in charge responsible.

Subpart 78.65—Exhibition of License

78.65–1 Licensed officers.

Subpart 78.70—De-Energizing of Cargo Hold Lighting Circuits When Grain or Other Combustible Bulk Cargo Is Carried

78.70–1 Master's responsibility.
78.70–5 Warning notice posted.

Subpart 78.83—Operation of Vehicles in Enclosed Locations

78.83–1 Special operating conditions.

Subpart 78.90—Pilot Boarding Operations

78.90–1 Pilot boarding operation.

Subpart 78.95—Person in Charge of Transfer of Liquid Cargo in Bulk

78.95–1 General.

AUTHORITY: 33 U.S.C. 1321(j); 46 U.S.C. 2103, 3306, 6101; 49 U.S.C. 5103, 5106; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; E.O. 12777, 56 FR 54757, 3 CFR, 1991 Comp., p. 351; 49 CFR 1.46.

SOURCE: CGFR 65–50, 30 FR 16955, Dec. 30, 1965, unless otherwise noted.

Subpart 78.01—Application

§ 78.01–1 General.

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

(b) [Reserved]

§ 78.01–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in paragraph (b) of this section, the Coast Guard must publish notice of change in the FEDERAL REGISTER; and the material must be available to the public. All approved material is available for inspection at the Office of the Federal Register, 800 North Capitol Street NW., Suite 700, Washington, DC 20002, and at the U.S. Coast Guard, Lifesaving and Fire Safety Division (G–MSE–4), 2100 Second Street SW., Washington, DC 20593–0001, and is available from the sources indicated in paragraph (b) of this section.

(b) The material approved for incorporation by reference in this part and the sections affected are as follows:

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

ASTM D 93–97, Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester—78.17–75

INTERNATIONAL MARITIME ORGANIZATION (IMO)
Publications Section, 4 Albert Embankment, London, SE1 7SR United Kingdom. Resolution A.654(16), Graphical Symbols for Fire Control Plans—78.45–1

[CGD 95–028, 62 FR 51204, Sept. 30, 1997, as amended by USCG–1998–4442, 63 FR 52191, Sept. 30, 1998; USCG–1999–5151, 64 FR 67181, Dec. 1, 1999]

Subpart 78.05—Notice to Mariners and Aids to Navigation

§ 78.05–1 Duty of officers.

(a) Licensed deck officers are required to acquaint themselves with the latest information published by the Coast Guard and the National Imagery and Mapping Agency regarding aids to navigation. Neglect to do so is evidence of neglect of duty. It is desirable that all vessels have available in the pilothouse for convenient reference at all times a file of the applicable Notice to Mariners.

(b) Weekly Notices to Mariners (Great Lakes Edition), published by the Commander, 9th Coast Guard District, contain announcements and information on changes in aids to navigation and other marine information affecting the safety of navigation on the Great Lakes. These notices may be obtained free of charge, by making application to Commander, 9th Coast Guard District.

(c) Weekly Notices to Mariners (Worldwide coverage) are prepared jointly by the National Imagery and Mapping Agency, National Ocean Service, and the U.S. Coast Guard. They include changes in aids to navigation in assembled form for the 1st, 5th, 7th, Greater Antilles Section, 8th, 11th, 13th, 14th, and 17th Coast Guard Districts. Foreign marine information is also included in these notices. These notices are available without charge from the National Imagery and Mapping Agency, U.S. Collector of Customs of the major seaports in the United States and are also on file in the U.S. Consulates where they may be inspected.

[CGFR 66–33, 31 FR 15283, Dec. 6, 1966, as amended by CGFR 68–32, 33 FR 5717, Apr. 12, 1968; CGD 95–072, 60 FR 50463, Sept. 29, 1995; USCG–2001–10224, 66 FR 48620, Sept. 21, 2001]

§ 78.05–5 Charts and nautical publications.

As appropriate for the intended voyage, all vessels except barges, ferryboats and vessels operating exclusively on rivers, 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 5963, Jan. 31, 1977]

Subpart 78.07—Notice and Reporting of Casualty and Voyage Records

§ 78.07–1 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 47535, Dec. 14, 1987]

Subpart 78.10—Persons Allowed in Pilothouse and on Navigation Bridge

§ 78.10–1 Persons excluded.

Masters and pilots shall exclude from the pilothouse and navigation bridge while underway, all persons not connected with the navigation of the vessel. However, licensed officers of vessels, persons regularly engaged in training, regulating, evaluating or

[1] For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

learning the profession of pilot, officials of the United States Coast Guard, United States Navy, National Imagery and Mapping Agency, National Ocean Service, United States Army Corps of Engineers, Maritime Administration, and National Transportation Safety Board may be allowed in the pilothouse or upon the navigation bridge upon the responsibility of the master or pilot.

[CGD 91–023, 59 FR 16779, Apr. 8, 1994, as amended by USCG–2001–10224, 66 FR 48620, Sept. 21, 2001]

Subpart 78.12—Stability Information

§ 78.12–1 Posting of stability letter.

If a stability letter is issued under § 170.120 of this chapter, it must be posted under glass or other suitable transparent material in the pilothouse of the vessel.

[CGD 79–023, 48 FR 51007, Nov. 4, 1983]

Subpart 78.13—Station Bills

§ 78.13–1 Muster lists, emergency signals, and manning.

The requirements for muster lists, emergency signals, and manning must be in accordance with subchapter W (Lifesaving Appliances and Arrangements) of this chapter.

[CGD 84–069, 61 FR 25288, May 20, 1996]

Subpart 78.15—Doors Closed at Sea

§ 78.15–1 Subdivision bulkheads.

(a) All watertight doors in subdivision bulkheads shall be kept closed during navigation except when necessarily opened for working of the vessel, and in such cases they shall always be ready to be immediately closed.

(b) [Reserved]

Subpart 78.16—Port Lights

§ 78.16–1 General.

If port lights are fitted in spaces used alternatively for the carriage of cargo or passengers as permitted by § 171.116(d) of this chapter, dead covers must be fitted on the port lights when cargo is carried.

[CGD 79–023, 48 FR 51007, Nov. 4, 1983]

Subpart 78.17—Tests, Drills, and Inspections

§ 78.17–1 Application.

(a) Except as specifically noted, the provisions of this subpart shall apply to all vessels.

(b) [Reserved]

§ 78.17–3 Watertight doors.

(a) It shall be the duty of the master to see that all watertight doors in subdivision bulkheads that may be opened at sea, and all mechanisms, remote controls, and indicators connected therewith, shall be periodically inspected at least once in each week that the vessel is navigated to be assured that they are in proper operating condition. On vessels in which the voyage exceeds one week in duration, these doors shall be operated before the vessel leaves port. All such doors shall be operated daily.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

§ 78.17–5 Valves and closing appliances.

(a) It shall be the duty of the master to see that all valves, including cross connecting valves where fitted, and other appliances such as port lights, closing mechanism of scuppers, ash chutes, and rubbish chutes, the closing of which is necessary to make a compartment watertight, are operated at least once in every week that the vessel is navigated to be assured that they are in proper operating condition. Any remote controls or indicating mechanisms shall be inspected at this time to test their efficiency. Where such valves are accessible, they shall be inspected at this time, otherwise, they shall be inspected at the first opportunity when they are accessible. On vessels in which the voyage exceeds one week in duration, these appliances shall be operated before the vessel leaves port.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

§ 78.17–10 Loudspeaker system.

(a) Where fitted, the complete loudspeaker system shall be tested at least once every week. This test shall be made by an officer of the vessel.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

CROSS REFERENCE: See subchapter J (Electrical Engineering) of this chapter for details.

[CGFR 65–50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 74–125A, 47 FR 15231, Apr. 8, 1982]

§ 78.17–15 Steering gear, whistle, and means of communication.

(a) On all vessels making a voyage of more than 48 hours' duration, the entire steering gear, the whistle, and the means of communication between the bridge or pilothouse and the engine room shall be examined and tested by an officer of the vessel within a period of not more than 12 hours prior to departure. On all other vessels similar examinations and tests shall be made at least once every week.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

§ 78.17–20 Drafts and load line markings.

(a) The master of every vessel on an ocean, coastwise, or Great Lakes voyage shall enter the drafts of the vessel, forward and aft, in the official logbook when leaving port.

(b) On vessels subject to the requirements of subchapter E (Load Lines) of this chapter, at the time of departure from port on an ocean, coastwise, or Great Lakes voyage, the master shall insert in the official logbook a statement of the position of the subdivision load line mark, port and starboard, in relation to the surface of the water in which the vessel is then floating.

(1) When the draft of the vessel is limited by a seasonal load line located below the subdivision load line, the position of the applicable seasonal load line shall be entered in relation to the surface of the water in which the vessel is floating.

(2) When an allowance for draft is made for density of the water in which the vessel is floating, this density is to be noted in the official logbook.

§ 78.17–22 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, and then enter an attestation statement of the verification in the log book. 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 support of the determination must be retained on board the vessel for the duration of the voyage.

[CGD 89–037, 57 FR 41822, Sept. 11, 1992]

§ 78.17–25 Sanitation.

(a) It shall be the duty of the master and chief engineer to see that the vessel and, in particular, the passenger and crew quarters are in a clean and sanitary condition. The chief engineer shall be responsible only for the sanitary condition of the engineering department.

(b) [Reserved]

§ 78.17–30 Examination of boilers and machinery.

It shall be the duty of the chief engineer when assuming charge of the boilers and machinery of a vessel to examine them thoroughly. If any parts thereof are in bad condition, the fact shall immediately be reported to the master, owner or agent, and the Officer in Charge, Marine Inspection.

[CGD 95–028, 62 FR 51205, Sept. 30, 1997]

§ 78.17–33 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, located in the collision bulkhead, the side shell, or the boundaries of enclosed superstructures that are continuous with the shell of the vessel.

(c) The master shall enter into the log book the time and door location of every closing of the loading doors.

(d) The master shall enter into the log book 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 41822, Sept. 11, 1992]

§ 78.17–35 Hatches and other openings.

(a) It shall be the responsibility of the master to assure himself before leaving protected waters that all exposed cargo hatches of his vessel are closed and made properly tight.

(b) The following doors, portable plates, ports, and other openings shall be kept closed while the vessel is being navigated, and shall be closed before the vessel commences a voyage:

(1) Watertight doors between cargo spaces prescribed in § 170.275 of this chapter.

(2) Portable plates in watertight bulkheads prescribed in § 171.111(b) of this chapter.

(3) Gangway, cargo, and coaling ports fitted below the margin line that is determined in accordance with § 171.015 of this chapter.

(4) On ocean, coastwise, or Great Lakes vessels of 150 gross tons and over, all opening type port lights in a 'tween deck, if the sill of any port light in that 'tween deck, is below a line drawn parallel to the bulkhead deck at side and having its lowest point 4½ feet plus 2½ percent of the breadth of the vessel above the water when the vessel departs from port. The Commandant may indicate the limiting mean draft which would allow such port lights to be opened at sea.

(5) Port lights that are not accessible during navigation. Dead covers on such port lights shall also be secured.

(6) Port lights in spaces appropriated alternately to the carriage of cargo and passengers, when cargo is carried. Dead covers on such port lights shall also be secured.

(c) The time of opening and closing of hatches and other openings noted in this section shall be entered in the official logbook. In the event that the master at his discretion does not secure the hatches, a notation of this fact shall be made in the official logbook. If it becomes essential for the safety of the vessel to open any of the fittings noted in this section while at sea, the circumstances and the time of opening and closing shall be entered in the official logbook.

(d) The time of opening, closing, and securing, at sea, of watertight doors fitted between bunkers for the purpose of trimming coal, shall be entered in the official logbook.

[CGFR 65–50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 79–023, 48 FR 51007, Nov. 4, 1983]

§ 78.17–45 Emergency lighting and power systems.

(a) It shall be the duty of the master to see that the emergency lighting and power systems are operated and inspected at least once in each week that the vessel is navigated to be assured that the system is in proper operating condition.

(b) Internal combustion engine driven emergency generators shall be operated under load for at least 2 hours, at least once in each month that the vessel is navigated.

(c) Storage batteries for emergency lighting and power systems shall be tested at least once each 6-month period that the vessel is navigated to demonstrate the ability of the storage battery to supply the emergency loads

for the period of time specified in table 112.05–5(a) of this chapter.

(d) The date of the tests and the condition and performance of the apparatus shall be noted in the official logbook.

[CGFR 65–50, 30 FR 16959, Dec. 30, 1965, as amended by CGFR 70–143, 35 FR 19906, Dec. 30, 1970]

§ 78.17–50 Emergency training, musters, and drills.

Onboard training, musters, and drills must be in accordance with subchapter W (Lifesaving Appliances and Arrangements) of this chapter.

[CGD 84–069, 61 FR 25288, May 20, 1996]

§ 78.17–65 Smoke detecting system.

(a) It shall be the duty of the master to see that the smoke inlets in cargo holds are examined at least once in each 3 months by the ship's personnel to determine if the inlets are obstructed by corrosion, paint, dust, or other extraneous matter. Smoke tests shall be made in all holds and the system found or made operable. The date of the test and condition of the system shall be entered in the log.

(b) [Reserved]

§ 78.17–75 Requirements for fuel oil.

(a) It shall be the duty of the chief engineer to cause an entry in the log be made of each supply of fuel oil received on board, stating the quantity received, the name of the vendor, the name of the oil producer, and the flashpoint (Pensky-Martens Closed Cup Method, ASTM D 93 (incorporated by reference, see § 78.01–2)) for which it is certified by the producer.

(b) It shall be the further duty of the chief engineer to cause to be drawn and sealed and suitably labeled at the time the supply is received on board, a half-pint sample of each lot of fuel oil. These samples shall be preserved until the particular supply of oil is exhausted.

[CGFR 65–50, 30 FR 16955, Dec. 30, 1965, as amended by CGFR 68–82, 33 FR 18899, Dec. 18, 1968; USCG–2000–7790, 65 FR 58461, Sept. 29, 2000]

§ 78.17–80 Firefighting equipment, general.

(a) It shall be the duty of the owner, master, or person in charge to see that the vessel's firefighting equipment is at all times ready for use and that all such equipment required by the regulations in this subchapter is provided, maintained, and replaced as indicated.

(b) It shall be the duty of the owner, master, or person in charge to require and have performed at least once in every twelve months the tests and inspections of all hand portable fire extinguishers, semiportable fire extinguishing systems, and fixed fire extinguishing systems on board, as described in tables 71.25–20(a) (1) and 71.25–20(a) (2) in § 71.25–20 of this subchapter. The owner, master, or person in charge shall keep records of such tests and inspections showing the dates when performed, the number and/or other identification of each unit tested and inspected, and the name(s) of the person(s) and/or company conducting the tests and inspections. Such records shall be made available to the inspector upon request and shall be kept for the period of validity of the vessel's current certificate of inspection. Where practicable these records should be kept in or with the vessel's log book. The conduct of these tests and inspections does not relieve the owner, master, or person in charge of his responsibility to maintain this firefighting equipment in proper condition at all times.

Subpart 78.19—Auto Pilot

§ 78.19–1 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 officer of the watch.

[CGD 75–074, 42 FR 5963, Jan. 31, 1977]

Subpart 78.21—Maneuvering Characteristics

§ 78.21–1 Data required.

For each ocean and coastwise vessel of 1,600 gross tons and over, the following apply:

(a) The following maneuvering information must be prominently displayed in the pilothouse on a fact sheet:

(1) For full and half speed, a turning circle diagram to port and starboard that shows the time and the distance of advance and transfer required to alter the course 90 degrees with maximum rudder angle and constant power settings.

(2) The time and distance to stop the vessel from full and half speed while maintaining approximately the initial heading with minimum application of rudder.

(3) For each vessel with a fixed propeller, a table of shaft revolutions per minute for a representative range of speeds.

(4) For each vessel with a controllable pitch propeller a table of control settings for a representative range of speeds.

(5) For each vessel that is fitted with an auxiliary device to assist in maneuvering, such as a bow thruster, a table of vessel speeds at which the auxiliary device is effective in maneuvering the vessel.

(b) The maneuvering information must be provided in the normal load and normal light condition with normal trim for a particular condition of loading assuming the following—

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Deep water conditions—water depth twice the vessel's draft or greater; and

(4) Clean hull.

(c) At the bottom of the fact sheet, the following statement must appear:

WARNING

The response of the (name of the vessel) may be different from those listed above if any of the following conditions, upon which the maneuvering information is based, are varied:

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Water depth twice the vessel's draft or greater;

(4) Clean hull; and

(5) Intermediate drafts or unusual trim.

(d) The information on the fact sheet must be:

(1) Verified six months after the vessel is placed in service; or

(2) Modified six months after the vessel is placed into service and verified within three months thereafter.

(e) The information that appears on the fact sheet may be obtained from:

(1) Trial trip observations;

(2) Model tests;

(3) Analytical calculations;

(4) Simulations;

(5) Information established from another vessel of similar hull form, power, rudder and propeller; or

(6) Any combination of the above.

The accuracy of the information in the fact sheet required is that attainable by ordinary shipboard navigation equipment.

(f) The requirements for information for fact sheets for specialized craft such as semi-submersibles, hydrofoils, hovercraft and other vessels of unusual design will be specified on a case by case basis.

[CGD 73–78, 40 FR 2689, Jan. 15, 1975, as amended by CGD 79–165a, 45 FR 64189, Sept. 29, 1980]

Subpart 78.23—Whistling

§ 78.23–1 Unnecessary whistling prohibited.

(a) The unnecessary sounding of the vessel's whistle is prohibited within any harbor limits of the United States.

(b) [Reserved]

Subpart 78.27—Searchlights

§ 78.27–1 Improper use prohibited.

(a) No person shall flash or cause to be flashed the rays of a search light or other blinding light onto the bridge or into the pilothouse of any vessel under way.

(b) [Reserved]

Subpart 78.30—Lookouts, Pilothouse Watch, Patrolmen, and Watchmen

§ 78.30–5 Pilothouse watch.

(a) In addition to the licensed deck officer or pilot, there shall be at least one member of the crew also on watch in or near the pilothouse at all times when the vessel is being navigated.

(b) [Reserved]

§ 78.30–10 Supervised patrol.

(a) The provisions of this section shall apply to all vessels on an international voyage, and to all other vessels having berthed or stateroom accommodations for passengers. This section shall be applicable at all times when passengers are on board.

(b) Between the hours of 10 p.m. and 6 a.m., a supervised patrol shall be maintained so as to completely cover all parts of the vessel accessible to passengers or crew, excepting occupied sleeping accommodations and machinery spaces and similar spaces where a regular watch is maintained.

(c) Clocks, keys, and recording apparatus shall be of an approved type. The station boxes shall have seals placed over the securing screws in order to leave evidence of removal or tampering.

(d) Clocks or key stations shall be so arranged throughout the vessel so as to assure complete coverage of all accessible spaces required by paragraph (b) of this section. The number and location of recording stations, the order in which they are visited, and the number undertaken by one patrolman shall be specifically approved. The stations shall be numbered as required by § 78.47–23. Sufficient watchmen shall be available so that each space will be covered at least once in every hour except as follows:

(1) On existing vessels not constructed in general agreement with §§ 72.05–5 through 72.05–60, of this subchapter, the supervised patrol shall cover all spaces required by paragraph (b) of this section at least once in every 20 minutes.

(2) Public spaces constructed in general agreement with §§ 72.05–5 through 72.05–60, of this subchapter, shall have either an approved fire detecting system installed in such spaces or the supervised patrol shall cover these spaces at least once in every 20 minutes.

(e) The patrolman shall report to the bridge at least once an hour on vessels where the supervised patrol system is not equipped with a recording apparatus in the control station. In vessels requiring more than one patrol route, one patrolman may contact others and make a joint report to the bridge. Failure of a patrolman to follow a prescribed route, or to record each station within the specified time, shall be entered on the record along with the reason for the irregularity.

(f) The patrolman while on duty shall wear a distinctive uniform or badge, and shall have in his possession at all times an efficient flashlight.

(g) A patrolman on duty shall have no other tasks assigned to him.

§ 78.30–15 Watchmen.

(a) The provisions of this section shall apply to all vessels not required to have a supervised patrol under the provisions of § 78.30–10. This section shall be applicable at all times when passengers are on board.

(b) During the nighttime, a suitable number of watchmen shall be stationed in the passenger accommodation areas on each deck.

(c) Watchmen shall be under the direct charge of the master or officer in command of the vessel, and shall report to such officer at the pilothouse at fixed intervals not exceeding one hour. Watchmen shall not be required to perform any other duties while on watch.

(d) The uniform of the night watchman shall be conspicuously different from other persons so as to be readily distinguished. A rating badge marked ''Watchman'' shall be worn on the left sleeve and the front of the cap shall also be marked ''Watchman''.

(e) The watchman shall have in his possession at all time while on duty an efficient flashlight.

§ 78.30–20 Master's and officer's responsibility.

(a) Nothing in this part shall exonerate any master or officer in command from the consequences of any neglect to keep a proper lookout or to maintain a proper fire watch or from

any neglect of any precaution which may be required by the ordinary practice of seamen or by the special circumstances of the case. When circumstances require it, additional watches shall be maintained to guard against fire or other danger and to give an alarm in case of accident or disaster.

(b) [Reserved]

Subpart 78.33—Reports of Accidents, Repairs, and Unsafe Equipment

§ 78.33–1 Repairs of boiler and pressure vessels.

(a) Before making any repairs to boilers or unfired pressure vessels, the chief engineer shall submit a report covering the nature of the repairs to the Officer in Charge, Marine Inspection, at or nearest the port where the repairs are to be made.

(b) [Reserved]

§ 78.33–5 Accidents to machinery.

(a) In the event of an accident to a boiler, unfired pressure vessel, or machinery tending to render the further use of the item unsafe until repairs are made, or if by ordinary wear such items become unsafe, a report shall be made by the chief engineer immediately to the Officer in Charge, Marine Inspection, or if at sea, immediately upon arrival at port.

(b) [Reserved]

§ 78.33–10 Notice required before repairs.

(a) No repairs or alterations, except in an emergency, shall be made to any lifesaving or fire detecting or extinguishing equipment without advance notice to the Officer in Charge, Marine Inspection. When emergency repairs or alterations have been made, notice shall be given to the Officer in Charge, Marine Inspection, as soon as practicable.

(b) [Reserved]

Subpart 78.35—Communication Between Deckhouses

§ 78.35–1 When required.

On all vessels navigating in other than protected waters, where the distance between deckhouses is more than 46 meters (150 feet) a fixed means of facilitating communication between both ends of the vessel, such as a raised fore and aft bridge or side tunnels, must be provided. Previously approved arrangements may be retained so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

[CGD 95–027, 61 FR 26004, May 23, 1996]

Subpart 78.36—Work Vests

§ 78.36–1 Application.

(a) Provisions of this subpart shall apply to all vessels inspected and certificated in accordance with this subchapter.

(b) [Reserved]

§ 78.36–5 Approved types of work vests.

(a) Each buoyant work vest carried under the permissive authority of this section must be approved under—

(1) Subpart 160.053 of this chapter; or

(2) Subpart 160.077 of this chapter as a commercial hybrid PFD.

(b) [Reserved]

[CGD 78–174A, 51 FR 4350, Feb. 4, 1986]

§ 78.36–10 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 designated ship's officers. 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.

(b) [Reserved]

§ 78.36–15 Shipboard 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.

§ 78.36–20 Shipboard 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 multilated in the presence of a marine inspector so as to prevent its continued use as a work vest.

(b) [Reserved]

§ 78.36–25 Additional requirements for hybrid work vests.

(a) In addition to the other requirements in this subpart, commercial hybrid PFD's must be—

(1) Used, stowed, and maintained in accordance with the procedures set out in the manual required for these devices by § 160.077–29 of this chapter and any limitation(s) marked on them; and

(2) Of the same or similar design and have the same method of operation as each other hybrid PFD carried on board.

(b) [Reserved]

[CGD 78–174A, 51 FR 4350, Feb. 4, 1986]

Subpart 78.37—Logbook Entries

§ 78.37–1 Application.

(a) Except as specifically noted, the provisions of this subpart shall apply to all vessels.

(b) [Reserved]

§ 78.37–3 Logbooks and records.

(a) The master or person in charge of a vessel that is required by 46 U.S.C. 11301 to have an official logbook shall maintain the logbook on form CG–706. When the voyage is completed, the master or person in charge shall file the logbook with the Officer in Charge, Marine Inspection.

(b) The master or person in charge of a vessel that is not required by 46 U.S.C. 11301 to have an official logbook, shall maintain, on board, an unofficial logbook or record in any form desired for the purposes of making entries therein as required by law or regulations in this subchapter. Such logs or records are not filed with the Officer in Charge, Marine Inspection, but must be kept available for review by a marine inspector for a period of 1 year after the date to which the records refer. Separate records of tests and inspections of fire fighting equipment must be maintained with the vessel's logs for the period of validity of the vessel's certificate of inspection.

[CGD 95–027, 61 FR 26004, May 23, 1996]

§ 78.37–5 Actions required to be logged.

The actions and observations noted in this section shall be entered in the official log book. This section contains no requirements which are not made in other portions of this subchapter, the items being merely grouped together for convenience.

(a) Onboard training, musters, and drills: held in accordance with subchapter W (Lifesaving Appliances and Arrangements) of this chapter.

(b) Watertight door operation: Daily and Weekly. See § 78.17–3.

(c) Valve and closing appliance operation: Weekly. See § 78.17–5.

(d) Loudspeaker system: Weekly. See § 78.17–10.

(e) Steering gear, whistle, and means of communication: Prior to departure. See § 78.17–15.

(f) Drafts and load line markings: Prior to leaving port, ocean, coastwise, and Great Lakes services only. See § 78.17–20.

(g) Verification of vessel compliance with applicable stability requirements. After loading and prior to departure and at all other time necessary to assure the safety of the vessel. See § 78.17–22.

(h) Loading doors. Where appliicable, every closing and any opening when not docked. See § 78.17–33.

(i) Hatches and other openings: All openings and closings, or leaving port without closing, except vessels on protected waters. See § 78.17–35.

(j) Emergency lighting and power systems: Weekly and semiannually. See § 78.17–45.

(k) Smoke Detecting System: Once every three months. See § 78.17–65.

(l) Fuel oil data: Upon receipt of fuel oil on board. See § 78.17–75.

(m) Cargo gear inspections: At least once a month. See § 71.47–70 of this subchapter.

[CGFR 65–50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 89–037, 57 FR 41822, Sept. 11, 1992; CGD 84-069, 61 FR 25288, May 20, 1996]

§ 78.37–10 Official log entires.

(a) In addition to other items required to be entered in the official logbook on every vessel where an official logbook is required, all items relative to the crew and passengers, including the count of passengers carried, and to casualties shall also be entered.

(b) Except as noted in paragraph (b)(1) of this section, on any vessel where an official logbook is not required, the master shall keep a record of the correct count of all the passengers received and delivered from day to day. This record shall be open to inspection by the Coast Guard at all times. The aggregate number of the passengers carried shall be furnished to the Coast Guard whenever requested. The information shall be available for a period of one year after the date to which the records refer.

(1) The provisions of the paragraph shall not apply to ferry vessels.

(2) [Reserved]

[CGFR 65–50, 30 FR 16959, Dec 30, 1965, as amended by CGD 95–028, 62 FR 51205, Sept. 30, 1997]

Subpart 78.40—Vehicular Ferries

§ 78.40–1 Stowage of vehicles.

(a) Automobiles or other vehicles shall be stowed in such a manner as to permit both passengers and operators to get out and away from them freely in the event of fire or other disaster. Where there is insufficient clearance to provide for easy egress at all times, both passengers and operators shall be directed to leave their vehicles and to occupy other spaces reserved for them during the crossing. The decks, where necessary, shall be definitely marked with painted lines to indicate the vehicle runways and the aisle spaces.

(b) [Reserved]

§ 78.40–5 Securing of vehicles.

(a) The master shall take all necessary precautions to see that automobiles or other vehicles have their motors turned off when the ferry is under way, and the motors shall not be started until the ferry is secured to the landing. In addition, the vehicles at each end shall have their wheels securely blocked, while the vessel is being navigated.

(b) [Reserved]

§ 78.40–10 No smoking permitted.

(a) 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.

(b) [Reserved]

Subpart 78.45—Display of Plans

§ 78.45–1 When required.

(a) Vessels of 1,000 gross tons and over, and vessels of any tonnage on an international voyage shall have permanently exhibited for the guidance of the officer in charge of the vessel the following plans:

(1) General arrangement plans showing for each deck the fire control stations, the various sections enclosed by fire-resisting bulkheads, together with particulars of the fire alarms, detecting systems, the sprinkler installation (if any), the fire extinguishing appliances, means of access to different compartments, decks, etc., and the ventilating systems including particulars of the master fan controls, the positions of dampers, the location of the remote means of stopping fans, and identification numbers of the ventilating fans serving each section. If cargo compartments are ''specially suitable for vehicles,'' they shall be so indicated on the plan. Alternatively, at the discretion of the Commandant, the

listed details may be set out in a different medium, such as a booklet or on computer software, provided that the details are available to each officer and a written copy is retained on board at all times and is accessible during emergencies.

(2) For vessels constructed on or after September 30, 1997, and for existing vessels which have their plans redrawn, the symbols used to identify the aforementioned details shall be in accordance with IMO Assembly resolution A.654(16). The identical symbols can be found in ASTM Adjunct F 1626.

(3) Plans showing clearly for each deck and hold the boundaries of the watertight compartments, the openings therein with the means of closure and position of any controls thereof, and the arrangements for the correction of any list due to flooding.

(4) The aforementioned information required for this section shall be kept up-to-date, any alteration being recorded in the applicable medium as soon as practicable.

[CGD 95–028, 62 FR 51205, Sept. 30, 1997]

Subpart 78.47—Markings for Fire and Emergency Equipment, Etc.

§ 78.47–1 Application.

(a) The provisions of this subpart with the exception of § 78.47–90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 78.47–90.

(b) [Reserved]

§ 78.47–3 General.

(a) It is the intent of this subpart to provide such markings as are necessary for the guidance of the persons on board in case of emergency. In any specific case, and particularly on small vessels, where it can be shown to the satisfaction of the Officer in Charge, Marine Inspection, that the prescribed markings are unnecessary for the guidance of the persons on board in case of emergency, such markings may be modified or omitted.

(b) In addition to English, all stateroom notices, directional signs, etc., shall be printed in languages appropriate to the service of the vessel or other action be taken to achieve the same purpose.

(c) Where in this subpart red letters are specified, letters of a contrasting color on a red background will be accepted.

§ 78.47–5 General alarm contact makers.

Each general alarm contact maker must be marked in accordance with the requirements in subchapter J (Electrical Engineering Regulations) of this chapter.

[CGD 74–125A, 47 FR 15232, Apr. 4, 1982]

§ 78.47–7 General alarm bells.

(a) All general alarm bells shall be identified by red lettering at least ½ inch high: ''GENERAL ALARM—WHEN BELL RINGS GO TO YOUR STATION.''

(b) [Reserved]

§ 78.47–9 Carbon dioxide alarm.

(a) All carbon dioxide alarms shall be conspicuously identified: ''WHEN ALARM SOUNDS—VACATE AT ONCE. CARBON DIOXIDE BEING RELEASED.''

(b) [Reserved]

§ 78.47–10 Manual alarm boxes.

(a) In all new installations, manual alarm boxes shall be clearly and permanently marked ''IN CASE OF FIRE BREAK GLASS.'' Existing boxes not so marked with the same or equivalent wording, shall be identified either on the box or adjacent bulkhead in at least ½ inch letters ''IN CASE OF FIRE BREAK GLASS.'' All manual alarm boxes shall be numbered in red on the adjacent bulkhead with at least ½ inch figures. The number shall agree with the number of the zone.

(b) [Reserved]

§ 78.47–13 Fire detecting and manual alarm, automatic sprinkler, and smoke detecting alarm bells.

(a) The fire detecting and manual alarm automatic sprinklers, and smoke detecting alarm bells in the engine room shall be identified by at least 1 inch red lettering ''FIRE ALARM'', ''SPRINKLER ALARM'' or ''SMOKE DETECTING ALARM'' as appropriate.

Where such alarms on the bridge or in the fire control station do not form a part of an easily identifiable alarm cabinet, the bells shall be suitably identified as above.

(b) [Reserved]

§ 78.47–15 Fire extinguishing system branch lines.

(a) The branch line valves of all fire extinguishing systems shall be plainly and permanently marked indicating the spaces served.

(b) [Reserved]

§ 78.47–17 Fire extinguishing system controls.

(a) The control cabinets or spaces containing valves or manifolds for the various fire extinguishing systems shall be distinctly marked in conspicuous red letters at least 2 inches high—''STEAM FIRE APPARATUS'', ''CARBON DIOXIDE FIRE APPARATUS'', ''FOAM FIRE APPARATUS'', ''WATER SPRAY FIRE APPARATUS'', ''MANUAL SPRINKLING SYSTEM'', or ''AUTOMATIC SPRINKLING SYSTEM'', as the case may be.

(b) [Reserved]

§ 78.47–20 Fire hose stations.

(a) Each fire hydrant shall be identified in red letters and figures at least 2 inches high ''FIRE STATION NO 1,'' ''2,'' ''3,'' etc. Where the hose is not stowed in the open or behind glass so as to be readily seen, this identification shall be so placed as to be readily seen from a distance.

(b) [Reserved]

§ 78.47–23 Supervised patrol stations.

(a) Each supervised patrol clock or key station shall be numbered.

(b) [Reserved]

§ 78.47–25 Emergency squad equipment.

(a) Lockers or spaces containing equipment for the use of the emergency squad shall be marked ''EMERGENCY SQUAD EQUIPMENT.''

(b) [Reserved]

§ 78.47–27 Self-contained breathing apparatus.

Lockers or spaces containing self-contained breathing apparatus shall be marked ''SELF-CONTAINED BREATHING APPARATUS.''

[CGD 95–028, 62 FR 51205, Sept. 30, 1997]

§ 78.47–30 Hand portable fire extinguishers.

(a) Each hand portable fire extinguisher shall be marked with a number and the location where stowed shall be marked with a corresponding number at least ½ inch high. Where only one type and size of hand portable fire extinguisher is carried, the numbering may be omitted.

(b) [Reserved]

§ 78.47–33 Emergency lights.

(a) All emergency lights shall be marked with a letter ''E'' at least ½ inch high.

(b) [Reserved]

§ 78.47–35 Fire doors.

(a) All doors in main vertical zone bulkheads or stairway enclosures, except from individual rooms such as staterooms, fan rooms, lockers, etc., shall be numbered conspicuously on an etched plate or equivalent in not less than ⅜ inch letters and figures ''F. S. D. 1,'' ''2,'' ''3,'' etc. If stenciled or similar notice is used, the letters and figures shall be at least 1 inch high. The number shall be conspicuous with the door in the open position.

(b) [Reserved]

§ 78.47–37 Watertight doors.

(a) All watertight doors in subdivision bulkheads shall be numbered conspicuously on both sides on an etched plate or equivalent in not less than ⅜ inch letters and figures ''W. T. D. 1,'' ''2,'' ''3,'' etc. If a stencilled or similar notice is used, the letters and figures shall be at least 1 inch high. If the construction is such that the number cannot be seen with the door in the open position, a similar number shall be placed on the frame or other location immediately adjacent to the door. All watertight door remote control stations shall be marked in the same manner, and in addition, the direction of operation of the lever or wheel to open and close the door shall be conspicuously marked.

(b) Class 1 doors fitted in accordance with the requirements in § 170.255 of this chapter must additionally be marked ''RECLOSE AFTER USE.''

[CGFR 65–50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 79–023, 48 FR 51008, Nov. 4, 1983]

§ 78.47–38 Valves and closing appliances.

(a) All valves and closing appliances, or other mechanisms which may be required to be operated for damage control purposes in case of emergency shall be conspicuously marked with letters at least 1 inch high identifying the control and the direction of operation. In all cases indication shall be provided to show whether the control is open or closed.

(b) [Reserved]

§ 78.47–40 Exit signs.

(a) Illuminated exit signs are required and must be installed in accordance with subchapter J (Electrical Engineering Regulations) of this chapter.

(b) Small rooms or spaces having a secondary means of escape which is not obviously apparent shall have a suitable sign in red letters ''EMERGENCY EXIT'' directing attention to such escape.

CROSS REFERENCE: See subchapter J (Electrical Engineering) of this chapter for minimum size.

[CGFR 65–50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 74–125A, 47 FR 15232, Apr. 8, 1982]

§ 78.47–45 Markings for lifesaving appliances, instructions to passengers, and stowage locations.

Lifesaving appliances, instructions to passengers, and stowage locations must be marked in accordance with subchapter W (Lifesaving Appliances and Arrangements) of this chapter.

[CGD 84–069, 61 FR 25288, May 20, 1996]

§ 78.47–53 Automatic ventilation dampers.

(a) The manual operating positions for automatic fire dampers in ventilation ducts passing through main vertical zone bulkheads shall be identified by red day light-reflecting letters at least ½ inch high ''VENTILATION FIRE DAMPER.'' In addition, the open and closed positions shall be similarly marked.

(b) [Reserved]

[CGFR 65–50, 30 FR 16955, Dec. 30, 1965, as amended by 67–87, 32 FR 19181, Dec. 20, 1967]

§ 78.47–55 Instructions for changing steering gear.

(a) Instructions in at least ½ inch letters and figures shall be posted in the steering engine room, relating in order, the different steps to be taken in changing to the emergency steering gear. Each clutch, gear, wheel, lever, valve or switch which is used during the changeover shall be numbered or lettered on a metal plate or painted so that the markings can be recognized at a reasonable distance. The instructions shall indicate each clutch or pin to be ''in'' or ''out'' and each valve or switch which is to be ''opened'' or ''closed'' in shifting to any means of steering for which the vessel is equipped. Instructions shall be included to line up all steering wheels and rudder amidship before changing gears.

(b) [Reserved]

§ 78.47–57 Rudder orders.

(a) At all steering stations, there shall be installed a suitable notice on the wheel or device of in such other position as to be directly in the helmsman's line of vision, to indicate the direction in which the wheel or device must be turned for ''right rudder'' and for ''left rudder.''

(b) [Reserved]

§ 78.47–70 Portable magazine chests.

(a) Portable magazine chest shall be marked in letters of at least 3 inches high ''PORTABLE MAGAZINE CHEST — FLAMMABLE — KEEP LIGHTS AND FIRE AWAY''.

(b) [Reserved]

§ 78.47–75 Ventilation alarm failure.

(a) The alarm required by § 72.15–15 (c)(4) of this subchapter, which indicates the loss of required ventilation in spaces specially suitable for vehicles, shall be marked with a conspicuous sign in at least ¼-inch letters ''VENTILATION FAILURE IN VEHICULAR SPACE.''

(b) [Reserved]

[CGFR 66–33, 31 FR 15284, Dec. 6, 1966]

§ 78.47–90 Vessels contracted for prior to November 19, 1952.

(a) Vessels contracted for prior to November 19, 1952, shall meet the requirements of this paragraph.

(1) The requirements of §§ 78.47–5 through 78.47–75 shall be met with the exception that existing signs and markings containing the same general intent, but not necessarily identical wording or exact letter type, size, or color, may be retained so long as they are in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

(2) [Reserved]

(b) [Reserved]

[CGFR 65–50, 30 FR 16955, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15284, Dec. 6, 1966]

Subpart 78.50—Markings on Vessels

§ 78.50–1 Application.

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

(b) [Reserved]

§ 78.50–5 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]

§ 78.50–10 Draft marks and draft indicating systems.

(a) All vessels must have draft marks plainly and legibly visible upon the stem and upon the sternpost or rudderpost or any place at the stern of the vessel as may be necessary for easy observance. The bottom of each mark must indicate the draft.

(b) The draft must be taken from the bottom of the keel to the surface of the water at the location of the marks.

(c) In cases where the keel does not extend forward or aft to the locations of the draft marks, due to raked stem or cut—away skeg, the datum line from which the draft shal be taken shall be obtained by projecting the line of the bottom of keel forward or aft, as the case may be, to the location of the draft marks.

(d) In cases where a vessel may have a skeg or other appendage extending locally below the line of the keel, the draft at the end of the vessel adjacent to such appendage shall be measured to a line tangent to the lowest part of such appendage and parallel to the line of the bottom of the keel.

(e) Draft marks must be separated so that the projections of the marks onto a vertical plane are of uniform height equal to the vertical spacing between consecutive marks.

(f) Draft marks must be painted in contrasting color to the hull.

(g) 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.

[CGFR 65–50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 72–104R, 37 FR 14233, July 18, 1972; CGD 89–037, 57 FR 41822, Sept. 11, 1992]

§ 78.50–15 Load line marks.

(a) Vessels assigned a load line shall have the deck line and the load line marks permanently scribed or embossed as required by subchapter E (Load Lines) of this chapter.

(b) [Reserved]

Subpart 78.55—Carrying of Excess Steam

§ 78.55–1 Master and chief engineer responsible.

It shall be the duty of the master and the engineer in charge of the boilers of any vessel to require that a steam pressure is not carried in excess of that allowed by the certificate of inspection, and to require that the safety valves, once set by the inspector, are in no way tampered with or made inoperative.

[CGD 95–028, 62 FR 51205, Sept. 30, 1997]

Subpart 78.57—Routing Instructions

§ 78.57–1 All personnel must comply.

All licensed masters, officers, and certificated seamen on United States

vessels shall strictly comply with routing instructions issued by competent naval authority.

[CGD 95–027, 61 FR 26005, May 23, 1996]

Subpart 78.60—Compliance With Provisions of Certificate of Inspection

§ 78.60–1 Master or person in charge responsible.

(a) It shall be the duty of the master or other person in charge of the vessel to see that all of the provisions of the certificate of inspection are strictly adhered to. Nothing in this subpart shall be construed as limiting the master or other person in charge of the vessel, at his own responsibility, from diverting from the route prescribed in the certificate of inspection or taking such other steps as he deems necessary and prudent to assist vessels in distress or for other similar emergencies.

(b) [Reserved]

Subpart 78.65—Exhibition of License

§ 78.65–1 Licensed officers.

All licensed officers on a vessel shall have their licenses conspicuously displayed.

[CGD 95–028, 62 FR 51205, Sept. 30, 1997]

Supart 78.70—De-Energizing of Cargo Hold Lighting Circuits When Grain or Other Combustible Bulk Cargo is Carried

§ 78.70–1 Master's responsibility.

(a) Before loading bulk grain, or similar combustible bulk cargo, the master shall have the lighting circuits to cargo compartments in which the bulk cargo is to be loaded de-energized at the distribution panel or panel board. He shall thereafter have periodic inspections made of the panel or panel board as frequently as necessary to ascertain that the affected circuits remain de-energized while this bulk cargo remains within the vessel.

(b) [Reserved]

§ 78.70–5 Warning notice posted.

(a) As a precaution against any subsequent unintentional re-energizing of the circuits specified above, an appropriate notice shall be posted at the location where the control is effected warning against re-energizing these circuits. Such notice shall remain posted while this bulk cargo remains within the vessel.

(b) [Reserved]

Subpart 78.83—Operation of Vehicles in Enclosed Locations

§ 78.83–1 Special operating conditions.

(a) The operation of self-propelled vehicles in enclosed locations shall be permitted only when the other conditions in this section have been met.

(b) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial trucks shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005%) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075%). When necessary, portable blowers of adequate size and location shall be utilized.

[CGFR 66–33, 31 FR 15284, Dec. 6, 1966, as amended by CGFR 69–72, 34 FR 17484, Oct. 29, 1969; CGD 95-027, 61 FR 26005, May 23, 1996]

Subpart 78.90—Pilot Boarding Operations

§ 78.90–1 Pilot boarding operation.

(a) The master shall ensure that pilot boarding equipment is maintained as follows:

(1) The equipment must be kept clean and in good working order.

(2) Each damaged step or spreader step on a pilot ladder must be replaced

in kind with an approved replacement step or spreader step, prior to further use of the ladder. The replacement step or spreader step must be secured by the method used in the original construction of the ladder, and in accordance with manufacturer instructions.

(b) The master shall ensure compliance with the following during pilot boarding operations:

(1) Only approved pilot boarding equipment may be used.

(2) The pilot boarding equipment must rest firmly against the hull of the vessel and be clear of overboard discharges.

(3) Two man ropes, a safety line and an approved lifebuoy with an approved water light must be at the point of access and be immediately available for use during boarding operations.

(4) Rigging of the equipment and embarkation/debarkation of a pilot must be supervised in person by a deck officer.

(5) Both the equipment over the side and the point of access must be adequately lit during night operations.

(6) If a pilot hoist is used, a pilot ladder must be kept on deck adjacent to the hoist and available for immediate use.

[CGD 79–032, 49 FR 25455, June 21, 1984]

Subpart 78.95—Person in Charge of Transfer of Liquid Cargo in Bulk

§ 78.95–1 General.

A qualified person in charge of a transfer of liquid cargo in bulk shall be designated in accordance with subpart C of 33 CFR part 155.

[CGD 79–116, 60 FR 17157, Apr. 4, 1995]

PART 80—DISCLOSURE OF SAFETY STANDARDS AND COUNTRY OF REGISTRY

Sec.

80.01 Purpose.
80.10 Applicability.
80.15 Ocean voyage.
80.20 Exception to requirements.
80.25 Notification of safety standards.
80.30 Promotional literature or advertising.
80.40 Civil penalty.

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

SOURCE: CGD 72–187R, 38 FR 9081, Apr. 10, 1973, unless otherwise noted.

§ 80.01 Purpose.

The purpose of the regulations in this part is to implement 46 U.S.C. 3504.

[CGD 95–028, 62 FR 51205, Sept. 30, 1997]

§ 80.10 Applicability.

Except as exempted in § 80.20, this part applies to—

(a) Owners, operators, agents, or any persons selling passage on a foreign or domestic vessel of one hundred gross tons or over having berth or stateroom accommodations for fifty or more passengers and embarking passengers at a United States port for a coastwise or an international voyage; and (b) owners, operators, agents, and other persons involved in the publishing and distribution of promotional material in or over any medium of communication within the United States offering passage or soliciting passengers for an ocean voyage anywhere in the world, by a vessel of one hundred gross tons or over having berth or stateroom accommodations for fifty or more passengers, regardless of whether passengers are embarked at United States ports for said voyage.

(b) [Reserved]

[CGD 79–180, 48 FR 7456, Feb. 22, 1983]

§ 80.15 Ocean voyage.

An ocean voyage for the purposes of this part means:

A voyage on any body of water seaward of the low water mark such as an ocean or arm thereof, other major bodies of water such as seas, gulfs, and straits, except voyages exclusively within harbors and small coastal indentations.

[CGD 79–180, 48 FR 7456, Feb. 22, 1983]

§ 80.20 Exception to requirements.

(a) This part does not apply to vessels that comply with the safety standards set forth in the International Convention for Safety of Life at Sea, 1974.

(b) If the exception in paragraph (a) of this section applies, the country of

registry must appear in printed advertising or promotional literature as described in § 80.30(a), in a type no smaller than six points, American point system.

[CGD 72–187R, 38 FR 9081, Apr. 10, 1973, as amended by CGD 79–180, 48 FR 7456, Feb. 22, 1983; CGD 90–008, 55 FR 30661, July 26, 1990]

§ 80.25 Notification of safety standards.

(a) Each owner, operator, agent, or other person, selling passage for a coastwise or an international voyage embarking passengers at a United States port shall give to a prospective passenger, in writing, at the time of or before passage is booked, separately from any promotional literature or advertising used, a document containing the following information for each vessel concerned—

(1) The name of the vessel;

(2) The country of registry;

(3) One of the following statements as appropriate:

(i) This vessel complies with international safety standards, except the 1966 fire safety standards.

(ii) This vessel complies with international safety standards developed prior to 1960. There is (*or*, is not) an automatic sprinkler system fitted in the passenger living and public spaces. The hull, decks, deckhouses, structural bulkheads, and internal partitions are (*or*, are not) composed of combustible materials.

(iii) This vessel does not comply with any international safety standard. There is (*or*, is not) an automatic sprinkler system fitted in the passenger living and public spaces. The hull, decks, deckhouses, structural bulkheads, and internal partitions are (*or*, are not) composed of combustible materials.

(b) The information required in paragraph (a) of this section must be printed in a type no smaller than six points, American point system.

(c) The information required in paragraph (a) of this section must be headed—

(1) ''SAFETY INFORMATION'';

(2) With each letter in the heading capitalized; and

(3) In boldfaced type of a size equal to the size of the text required in paragraph (a) of this section.

[CGD 72–187R, 38 FR 9081, Apr. 10, 1973, as amended by CGD 79–180, 48 FR 7456, Feb. 22, 1983]

§ 80.30 Promotional literature or advertising.

(a) Except as provided in paragraph (f) of this section, all promotional literature or advertising in or over any medium of communication within the United States that offers passage or solicits passengers for ocean voyages anywhere in the world must contain the safety information statement prescribed in paragraph (b) of this section if—

(1) A vessel is named; or

(2) A voyage is described by—

(i) A stated port or area of departure;

(ii) A stated port or area of destination; or

(iii) A schedule of days of departure or arrival.

(b) The safety information statement required in paragraph (a) of this section must include—

(1) The name of the vessel;

(2) The country of registry; and

(3) One of the following statements, as appropriate:

(i) This vessel complies with international safety standards, except the 1966 fire safety standards.

(ii) This vessel complies with international safety standards developed prior to 1960. There is (*or*, is not) an automatic sprinkler fitted in the passenger living and public spaces. The hull, decks, deckhouses, structural bulkheads, and internal partitions are (*or*, are not) composed of combustible materials.

(iii) This vessel does not comply with any international safety standard. There is (*or*, is not) an automatic sprinkler fitted in the passenger living and public spaces. The hull, decks, deckhouses, structural bulkheads, and internal partitions are (*or*, are not) composed of combustible materials.

(c) The safety information statement prescribed in paragraph (b) of this section must be—

(1) Printed in a type no smaller than 6 points, American point system, that is the same size as any other textual

matter of the promotional literature or advertising, including any headings;

(2) Headed ''SAFETY INFORMATION'' in the same size type that is used in the safety information statement; and

(3) Separated from other portions of the text by double spacing or box ruling.

(d) If the promotional literature or advertising lists two or more passenger vessels, the owner or operator shall clearly indicate the safety information prescribed in paragraph (b) of this section for each vessel, but unnecessary repetition is not required.

(e) Each brochure, pamphlet, schedule, and similar publication required in paragraph (a) of this section to contain safety information must—

(1) State the safety information prescribed in paragraph (b) of this section at least once for each vessel named; and

(2) Include a reference in the index of contents or the cover regarding the page number where the safety information for each vessel is located.

(f) The section does not apply to—

(1) An advertising sign that is towed, displayed, or written by aircraft;

(2) An advertisement in a trade publication that is directed to the professional counselors in the travel industry and not intended or used for general distribution to the public for solicitation of passage on a vessel; or

(3) An advertisement within a magazine, newspaper, periodical, or similar publication that is—

(i) Produced outside of the United States;

(ii) Not an American edition; and

(iii) Primarily distributed in the country in which it is produced.

§ 80.40 Civil penalty.

For each violation of the regulations in this part, the owner, operator, agent, or other person involved is subject to the penalties prescribed in 46 U.S.C. 3504.

[CGFR 72–187R, 38 FR 9081, Apr. 10, 1973, as amended by CGD 95–028, 62 FR 51205, Sept. 30, 1997]

PARTS 81–89 [RESERVED]

INDEX

SUBCHAPTER H—PASSENGER VESSELS

EDITORIAL NOTE: This listing is provided for informational purposes only. It is compiled and kept current by the U. S. Coast Guard, Department of Transportation. This index is updated as of October 1, 2002.

In general, references in this index pertain to new construction or installations. For existing vessels or installations, see the ''application'' in the text covering the particular referenced part, subpart, section, etc.

Part, subpart, or section

A

Access:
- General. (See Means of escape)
- Manholes in doubles bottoms. (See Double bottom)
- On weather decks 72.10-45
- Plan of displayed 78.45-1
- Prohibited location of openings (See Bulkheads)
- To fire extinguishing valves and controls:
  - Automatic sprinkling ..... 76.25(a)
  - Carbon dioxide ..... 76.15-10(i)
  - Foam ..... 76.17-10(b)
  - Manual sprinkling ..... 76.23-15(a)
- To lifeboats 72.10-40
- Trucks and tunnels through bulkheads (See Bulkhead)

Accident, reports of 78.07, 78.33

Accommodation space:
- Bulkheads and decks 72.05-10
- Carbon dioxide piping in ..... 76.15-15(i)
- Definition of, for structural fire protection ..... 72.05-5(b)
- Fire protection equipment required 76.05
- Officer. (See Officer accommodations)
- Passenger. (See Passenger accommodations)
- Ventilation 72.05-50
- Windows and airports 72.05-30

Aids to navigation 78.05

Airport:
- Fire protection 72.05-30
- Insect screens in, crew accommodations 72.20-55
- Kept closed at sea 78.17-35
- Testing 78.17-5

Air Tank: Annual inspection in lifesaving appliances 71.25-15

Alarm:
- Automatic sprinkling system 76.25-35
- Carbon dioxide extinguishing system 76.15-30
- Electric fire detecting system 76.27-15
- Markings 78.47
- Miscellaneous machinery 77.05
- Pneumatic fire detecting system 76.30-15

Refrigerated space 77.05
Smoke detecting system 76.33-20
Alteration:
Notice of 71.55
Plans required 71.65-10
American Bureau of Shipping 70.10-7, 70.10-41, 70.35, 71.15, 71.65-5, 72.01-15, 72.01-20
American Society for Testing Materials (ASTM) ..... 76.01-2, 76.10-10, 77.01-3, 77.35-5(c), 78.17-75
Anchor:
General requirements 77.07
Annual inspection 71.25
Appeal, right of 70.01-7
Application of subchapter 70.05
Applicator: For combination nozzle. (See Fire hose nozzle)
Approved:
Definition of 70.10-1
Fire protection equipment to be 76.01-5, 76.05
Plans required to be 71.65
Arrangements:
Authority for regulations 70.01
Equivalents for 70.15
Initial inspection 71.20
Plans required 71.65-5
Authority for regulations 70.01-1
Automatic fire damper. (See Fire damper)
Automatic sprinkling system:
Access to controls ..... 76.25-25(a)
Controls 76.25-25
Electrical requirements 76.25-35
General details 76.25
Inspection. (See Fire detecting system)
Markings 76.25-25, 76.25-35
Operation and installation 76.25-35
Piping 76.25-30
Plans to be displayed 78.45
Pressure tank 76.25-20
Pumps and water supply 76.25-15
Size and arrangement of pumps and pipe sizes 76.25-10
Where required ..... 72.05-90(b)(3), 76.05-1, 76.05-20
Zoning 76.25-5
Availability of water for fire extinguishing 76.10-3

B

Baggage room. (See Service space)
Balconies ..... 72.05-5(m)
Ballast system 77.03
Barge: Definition 70.10-2
Basin. (See Washroom)
Bath tubs. (See Washroom)
Bell, markings on 78.47-7
Berth. (See Furniture)
Berth light in crew spaces ..... 72.20-45(b)
Bilge system 77.03
Boiler:
Accident to or repair of 78.33
Carrying excess steam 78.55

Examination of 78.17-30
General 77.03
Boiler space. (See Machinery space)
Breathing apparatus. (See Self-contained breathing apparatus)
Bulkhead:
Annual inspection of ..... 71.25-25(1)
Type, location, and construction 72.05-10
Doors closed at sea 78.15
Door in, other than watertight 72.05-25
Minimum requirements ..... 72.05-10(e)
Type of watertight doors required in. (See Watertight door)
Bunker doors. (See Bulkhead)

C

Carbon dioxide extinguishing system:
Access to supply and controls 76.15-10
Alarms 76.15-30
Alternate, if fire pumps in same space ..... 76.10-5(h)
Controls 76.15-10
Discharge outlets 76.15-25
Enclosure openings 76.15-35
For cargo spaces ..... 76.15-5(c)
For machinery spaces, paint lockers, tanks, etc. ..... 76.15-5(e)
General details 76.15
Installation test ..... 76.15-15(j)
Markings ..... 76.15-10(c),(d),(h), 76.15-30
Openings in living quarters not permitted ..... 76.15-15(i)
Operating instructions ..... 76.15-10(h)
Piping 76.15-15
Plans to be displayed 78.45
Pressure relief 76.15-40
Quantity, pipe size, discharge rates 76.15-5
Storage 76.15-20
Type of system required ..... 76.15-1(b)
Where required 76.05-20
Cargo:
Ports. (See Openings)
Cargo gear:
Causing blind sector 72.04-1
Plans and specifications for new construction 71.65-5
Cargo in bulk:
Combustible and flammable liquid ..... Table 70.05-1(a), 70.05-30
Grain or other combustible 78.70
Cargo space:
Bulkheads and decks 72.05-10
Definition, for structural fire protection ..... 72.05-5(e)
Fire protection equipment required 76.05
Hatch covers and shifting boards 72.05-35
Ventilation 72.05-50
Windows and airports 72.05-30
Carpenter shop. (See Service space)
Carpet. (See Rug)
Carrying freight for hire, definition of 70.10-5
Carrying passengers for hire:
Definition of ..... 70.10-34(b)
Gross tonnage as a criterion for requirements 70.05-20
Vessels 70.05-1
Casing, machinery. (See Machinery space)

Casualty, notice and reporting of 78.07
Ceiling, construction of ..... 72.05-10(h), 72.05-15
Certificate:
  Exemption. (See Exemption certificate)
  Of inspection. (See Certificate of inspection)
  Safety. (See Safety certificate)
  Temporary. (See Temporary certificate)
Certificate of Inspection (COI):
  Annual inspection prerequisite for reissuance 71.25-1
  Compliance with provisions of 78.60
  General 71.01
  Initial inspection, prerequisite for 71.20-1
  Period of validity of 71.01-10
Certificates under the International Convention for Safety of Life at Sea, 1960 (SOLAS):
  Application 71.75-1
  Duration of certificates 71.75-20
  Exemption certificate 71.75-10
  Passenger Ship Safety Certificate 71.75-5
  Posting of Convention certificates 71.75-15
Chain, anchor 77.07
Chart, required 78.05-5
Children's life preservers. (See Life preservers)
Classed vessel, defined 70.10-7
Coast Guard District Commander, defined 70.10-11
Coastwise:
  Definition 70.10-13
  Service; anchors, chains and hawsers for 77.07-5
Collision bulkhead. (See Bulkhead)
Combination nozzle. (See Fire hose nozzle)
Combustible liquid cargo in bulk ..... Table 70.05-1(a), 70.05-30
Commandant, defined 70.10-9
Communication system:
  Installation and details 77.05-1
  Testing 78.17-15
Compartmentation. (See Subdivision)
Construction:
  Authority for regulations 70.01-1
  Class B-15 bulkheads ..... 72.05-10(i)
  Crew accommodations 72.20-15
  Doors, other than watertight 72.05-25
  Double Watertight. (See Watertight doors)
  Double bottom. (See Double bottom)
  Fire control bulkheads and decks 72.05-10
  Fire protection, general 72.03
  Inspection: Annual 71.25-20
  Initial 71.20-15
  New, plans and specifications required 71.65-5
  Structural requirements and standards 71.65-5, 72.01-15, 72.01-20, 72.01-25, 72.05-10, 72.05-90, 72.20-90
  Structural subdivision 72.01-25
Contracted for, defined 70.05-5
Controls:
  Fire-extinguishing systems:
    Automatic sprinkling 76.25-25
    Carbon dioxide 76.15-10
    Fire main ..... 76.10-15(c)
    Foam 76.17-10

Manual sprinkling 76.23-15
Miscellaneous machinery 77.05
Corridor. (See also Safety area):
Dead end 72.10-30
Fire-resistant furnishings in ..... 72.05-55(c)
Passenger and crew ..... 72.05-5(k)
Coupling: Fire hose. (See Fire hose)
Crew Accommodations. (See also Accommodation space):
Construction 72.20-15
Corridors ..... 72.05-5(k)
General 72.20
Heating and cooling 72.20-50
Hospital space 72.20-35
Insect screens 72.20-55
Laundry facilities 72.20-40
Lighting 72.20-45
Location 72.20-10
Messrooms 72.20-30
Recreation facilities ..... 72.20-40(b)
Sanitary inspections. (See Sanitation)
Sleeping Accommodations 72.20-20
Ventilation 72.15-20
Washrooms and toilet spaces 72.20-25
Customs regulations: Required markings 78.50

D

Damage 78.07
Damaged stability. (See Stability)
Damper, automatic fire. (See Fire dampers)
Daylight signaling lamp 77.05
Orange smoke. (See Smoke signal)
Dead cover. (See Airport)
Deck covering:
Fire-protection ..... 72.05-10(n)-(p)
In way of doors ..... 72.05-25(b)(6), (c)(5)
Deck:
Fire-protection classification 72.05-10
Minimum requirements ..... 72.05-10(a)-(g)
De-energizing of cargo hold lighting circuits when grain or other combustible bulk cargo is carried:
Master's responsibility 78.70-1
Warning notice posted 78.70-5
Definitions:
Relating to hull examinations 71.50-1
Terms used in subchapter 70.10
Terms used in subchapter 72.05, structural fire protection 72.05-5
Detecting, fire. (See Fire detecting)
Direction finder. (See Radio)
Disclosure of safety standards and country of registry ..... Part 80
Applicability 80.10
Civil penalty 80.40
Exemption to requirements 80.20
Notification of safety standards 80.25
Ocean voyage 80.15
Persons subject to regulation 80.10
Promotional literature or advertising 80.30
Door:

Bunker. (See Bulkhead)
In collision bulkhead. (See Bulkhead)
Insect screens to crew accommodations 72.20-55
Kept closed at sea 78.15, 78.17-35
Loading. (See Loading doors)
Locking of required means of escape 72.10-20
Magnetically controlled fire. (See Magnetically controlled fire doors)
Other than watertight 72.05-25
To machinery space. (See Bulkhead)
Watertight. (See Watertight door)
Double bottom:
Construction and testing 72.01-25
Draft:
Logged when leaving port 78.17-20
Required to be marked on vessel 78.50-10
Draft stops:
Where required ..... 72.05-10(h)
Fire protection equipment:
Automatic sprinkling 76.25
Carbon dioxide ..... 76.15-15(g)
Fire main ..... 76.10-10(e)
Foam 76.17
Manual sprinkling 76.23
Smoke detecting 76.33
Wells in double bottom. (See Double bottom)
Dry docking:
At any time 71.50-5
Periodical 71.50-3
Drydock examination:
Definition 71.50-1
Intervals 71.50-3
Notice and plans required 71.50-5

E

Electrical engineering:
General requirements 70.25
System, installations and details 77.05-1
Vessels subject to regulations 70.05-1
Electrical fire detecting system:
Alarm 76.27-15
Electrical requirements ..... 76.27-15(e)
Instructions ..... 76.27-15(f)
Location and spacing of detectors 76.27-10
Operation and installation 76.27-15
Plans to be displayed 78.45-1
Where required 76.05-1
Zoning 76.27-5
Elevator, enclosure 72.05-20
Emergency equipment 77.30
Emergency light:
Marking 78-47-33
Required 77.05-1
Emergency lighting and powering:
Installation and details 77.05
Testing 78.17-45
Emergency loudspeaker system. (See Loudspeaker system)
Emergency squad: Marking equipment stowage space 78.47-25

Enclosed locations, operating vessels in 78.83
Engine order telegraph system 77.05-1
Engineroom. (See Machinery space)
Equipment:
  Equivalents for 70.15
  For buoyant apparatus. (See Buoyant apparatus)
  Installations made during unlimited emergency 70.30-5
  Lifesaving. (See also Lifesaving equipment)
  In vessels covered under the Act of August 9, 1954 ..... 70.30-1(b)
  Sounding. (See Sounding equipment)
Equivalents 70.15
Equivalent plane bulkhead. (See Bulkhead)
Examination: Intervals, drydocks and internal structural 71.50-3
Excursion, permit to engage in 71.10
Exemption certificate 71.75-10
Exit. (See Means of escape)
Expired certificate of inspection 71.01-20
Extinguisher. (See Hand portable fire extinguishers; Semi-portable fire extinguishing systems)
Extinguishing system. (See Fire extinguishing system)

F

Federal Communications Commission:
  Annual inspection of radio installation 71.25-10
  Initial inspection of radio installation 71.20-15
Ferry:
  Chains or barriers in vehicular space 72.40-15
  Definition of 70.10-15
Railroad passenger car. (See Railroad passenger car ferry)
  Rails 72.40
  Vehicular spaces. (See Vehicular space)
  Washing and toilet facilities for 72.25-15
Fire alarm system. (See Manual alarm system)
Fire axe:
  Location 76.60-10
  Number required 76.60-5
Fire bulkhead. (See Structural fire protection)
Fire damper:
  Annual inspection ..... 71.25-25(a)(3)
  General ..... 72.05-50(b)
  Markings 78.47-53
  Plans displayed showing location 78.45
Fire detecting system:
  Annual inspection 71.25-20
  Details. (See Automatic sprinkling system; Electrical fire detecting system; Manual alarm system; Pneumatic fire detecting system; Smoke detecting system; Supervised patrol)
  Markings 78.47
  When required ..... 72.05-90(b), 76.05-1
Fire door. (See Magnetically controlled fire door)
Fire extinguisher. (See Hand portable fire extinguisher; Semi-portable fire extinguishing system)
Fire extinguishing system:
  Annual inspection 71.25-20
  Details. (See Automatic sprinkling system; Carbon dioxide extinguishing system; Fire main system; Foam extinguishing system; Manual sprinkling system; Steam smothering system; Water spray extinguishing system)

Initial inspection 71.20-15
Markings 78.47
When required 76.05-20
Fire-fighting equipment, general 78.17-80
Fire hazard, annual inspection for 71.25-45
Fire hose:
Additional, when foam extinguishing system used 76.17-25
Couplings ..... 76.10-10(1)
Inspection 71.25-20
Ports ..... 72.05-25(a)(6)
Size, length, and stowage 76.10-10
When and where required. (See Fire main system)
Fire hose nozzle:
Additional combination nozzles required, when foam extinguishing system used 76.17-25
Combination nozzles required ..... 76.10-10(j)
Type and size required ..... 76.10-10(j)
Fire hose rack ..... 76.10-10(g)
Fire hydrant:
Additional required, when foam extinguishing system used 76.17-25
Size and location 76.10-10
Fire main system:
Additional requirements, when foam extinguishing system used 76.17-25
Couplings. (See Fire hose)
General details 76.10
Hose ports ..... 72.05-25(a)(6)
Inspection. (See Fire extinguishing system)
Marking of valves ..... 76.10-15(b)
Piping 76.10-15
Protection from freezing ..... 76.10-10(e)
Pumps. (See Fire pump)
Shore connection ..... 76.10-10(c)
When required 76.05-15
Fire protection equipment ..... Part 76
Annual inspection 71.25-20
Equipment installed, but not required 76.01-5
General 76.01
Initial inspection 71.20
Fire protection, general:
Application 72.03-1
Fire hazards to be minimized 72.03-5
Lamp room construction 72.03-15
Woodwork insulated from heated surfaces 72.03-10
Fire protection, structural. (See Structural fire protection)
Fire pump:
Number, type, size, and location 76.10-5
Used for other purposes ..... 76.10-5(f)
Fire test. (See Standard fire test)
Fire watch:
General 78.30-20
Supervised patrol. (See Supervised patrol)
Watchmen. (See Watchmen)
Fireman's outfit 77.35
Application 77.35-1
General 77.35-5
Outfit 77.35-10
Spare charges 77.35-20

Stowage 77.35-15
Fixed fire extinguishing system. (See Fire extinguishing system)
Flame safety lamp ..... 77.30-5(c)
Flammable liquid cargo in bulk ..... Table 70.05-1(a), 70.05-30
Float, wood. (See Wood float)
Foam extinguishing system:
Access to supply and controls ..... 76.17-10(b)
Additional protection required 76.17-25
Controls 76.17-10
Discharge outlets 76.17-20
General details 76.17
Inspection. (See Fire extinguishing system)
Markings ..... 76.17-10(d)
Piping 76.17-15
Plans to be displayed 78.45
Quantity of foam required 76.17-5
Where required 76.05-20
Fog nozzle. (See Fire hose nozzle)
Food. (See Provisions)
Fore peak bulkhead. (See Bulkhead)
Foreign vessels subject to the requirements of this subchapter 70.05-3
Freight: Carriage for hire 70.10-5
Friction matches. (See Matches)
Fuel:
Oil tanks, integral examination of 71.53
Requirements for fuel oil 78.17-75
Fuel oil units: Fire extinguishing system required in spaces containing 76.05-20
Furnishings. (See Furniture)
Furniture:
Crew accommodations ..... 72.20-20(c)
Crew hospital 72.20-35
Insect screens 72.20-55
Mess rooms 72.20-30

G

Galley. (See also Service space):
Ventilation ..... 72.05-50(h)
Gangway, openings. (See Openings in vessel's sides)
Gas freeing 71.60
Gas mask:
Marking of Stowage space 78.47-27
Required 77.30
Gasoline, when using as fuel:
Ventilation 72.01
Vessel construction 72.01-10
General alarm system:
Details 77.05
Markings 78.47-5, 78.47-7
Glass, wire inserted. (See Wire inserted glass)
Gravity davit. (See Davits)
Great Lakes:
Definition of 70.10-17
Service; anchors, chains and hawsers for 77.07-5
Gross tonnage as a criterion for requirements 70.05-20
Grounding: Notice of 78.07
Guard. (See Rail)

H

Hand portable fire extinguishers:
Annual inspection 71.25-20
Classification 76.50-5
Location 76.50-10
Markings ..... 76.50-10(d)
Spare charges 76.50-15
When required 76.05-25
Hatch:
Closure of 78.17-35
Material for covers 72.05-35
Headquarters, definition of 70.10.19
Heating, crew spaces 72.20-50
Heat insulation. (See Insulation)
Hinged watertight door. (See Watertight doors)
Hook. (See Disengaging apparatus)
Horn. (See also Whistle and Fog horn)
Hose:
Fire. (See Fire hose)
Nozzle. (See Fire hose nozzle)
Outlets. (See Fire hydrants)
Ports ..... 72.05-25(a)(6)
Rack. (See Fire hose rack)
Semiportable fire extinguishing systems. (See Semiportable fire extinguishing system)
Hospital:
Crew 72.20-35
Deck covering ..... 72.05-10(p)
Hull markings 78.50-5
Hull structure. (See Construction)
Hydrant. (See Fire hydrant)

I

Incorporation by reference 76.01-2, 77.01-3
Initial inspection 71.20
Inner bottom. (See Double bottom)
Inspection:
After accident 71.40
Alterations and repairs 71.55
Carbon dioxide cylinders ..... 76.15-20(g)
Certificate of. (See Certificate of inspection)
Initial. (See Initial inspection)
Installation of carbon dioxide extinguishing system ..... 76.15-15(j)
Lifesaving equipment 71.25-15
Standards of 71.15-1
Tests, drills, and inspections by vessel personnel 78.17
Vessels for ocean or unlimited coastwise routes 70.05-7
Vessels, generally 71.15
Inspection and certification:
Generally 71.01
Period of validity 71.01-10
Inspector. (See Marine inspector)
Inspector not limited 71.25-50
Instructions:
For changing steering gear 78.47-55
Electrical detecting ..... 76.27-15(f)

Manual alarm ..... 76.35-15(e)
Operation of fire extinguishing systems:
Automatic sprinkling ..... 76.25-35(j)
Carbon dioxide ..... 76.15-10(h)
Foam ..... 76.17-10(c)
Operation of fire detecting systems ..... 76.25-35(j)
Pneumatic detecting ..... 76.30-15(f)
Smoke detecting ..... 76.33-20(g)
Routing 78.57
Use of emergency equipment ..... 77.30-5(d)
Insulation:
For Class ''A'' bulkheads and decks ..... 72.05-10(c)(1)
For Class ''B'' bulkheads ..... 72.05-10(c)(2)
Heat and refrigeration 72.05-40
In doors 72.05-25
Intact stability. (See Stability)
Securing of ..... 72.05-10(k)
Integral fuel oil tank examinations 71.53
Interior communication. (See Communication system)
Internal structural examination:
Definition 71.50-1
Intervals 71.50-3
Notice and plans required 71.50-5
International conventions ..... 70.01-1, Table 70.05-1(a) note 6, 70.05-3, 70.05-10, 71.75, 80.20
International voyage:
Application of regulations to vessels on 70.05-10
Short 70.10-43

J

Jacob's ladder. (See Ladder)
Joiner door. (See Doors other than watertight)
Joiner work:
Ceilings, linings, trim and decorations 72.05-15
Construction 72.05-10
Doors 72.05-25
Stairways and elevators 72.05-20
Windows 72.05-30

L

Ladder. (See also Stairway):
Lifeboat gunwale. (See Lifeboat gunwale ladder)
Vertical, as means of escape 72.10-15
Lakes, bays, and sounds: Definition of 70.10-23
Lamp Locker. (See Paint locker)
Laundry, crew 72.20-40
License, exhibition of 78.65
Lifeboat:
Access to 72.10-40
Annual inspection 71.25-15
Lifeboat winch: Annual inspection 71.25-15
Lifepreserver: Annual inspection 71.25-15
Lifesaving Appliances and Arrangements 70.28, 77.06
Installation 77.06-1
Markings for 78.47-45
Lifesaving equipment:
Annual inspection 71.25

Initial inspection 71.20
Inspection of 71.25-15
Required on excursions 71.10-10
Specific tests 71.20-20
Lighting:
Crew spaces 72.20-45
Emergency system. (See Emergency lighting)
Illumination of exit signs 78.47-40
Lighting and powering systems 77.05
Linings ..... 72.05-10(h)-(i), 72.05-15
Loading doors 78.17-33, 78.37-5
Load line:
Logging of position relative to water 78.17-20
Marking 78.50-15
Structural requirements for 72.01-5
Subdivision 78.17-20
Vessels subject to regulations 70.05-1
Logbook:
Actions required to be logged 78.37-5
Official log entries 78.37-10
Lookout, required 78.30-20
Loudspeaker system 78.17-10
Louvers in doors 72.05-25

M

Machinery:
Accidents to or repairs of 78.33
Boilers. (See Boiler)
Examination of 78.17-30
Machinery space:
Definition, for structural fire protection ..... 72.05-5(d)
Fire extinguishing equipment required 76.05
Ventilation 72.05-50
Windows and airports 72.05-30
Magnetically controlled fire doors:
Annual inspection 71.25-25
General requirements 72.05-25
Marking ..... 72.05-25(b)(9)(i)
Plans displayed showing location of 78.45
Main vertical zone:
Definition ..... 72.05-5(h)
Doors ..... 72.05-25(b)(9)
Requirements ..... 72.05-10(b)
Manholes:
In double bottom. (See Double bottom)
Prohibited location in bulkheads. (See Bulkhead)
Manifold. (See Value)
Manila falls. (See Falls)
Manual alarm system:
Electrical requirements ..... 76.35-15(d)
General details 76.35
Inspection. (See Fire detecting system)
Instructions ..... 76.35-15(e)
Location and spacing of boxes 76.35-10
Marking ..... 76.35-15(f)
Operation and installation 76.35-15
Plans to be displayed 78.45

Where required 76.05-5
Zoning 76.35-5
Manual sprinkling system:
Access to supply and control ..... 76.23-15(a)
Controls 76.23-15
General detail 76.23
Inspection. (See Fire extinguishing system)
Markings 76.23-15
Piping 76.23-20
Plans to be displayed 78.45
Quantity, pipe size, and discharge rates 76.23-10
Sprinkler heads 76.23-25
Where required 76.05-20
Zoning 76.23-5
Marine engineering:
Annual inspection of equipment 71.25-35
General requirements 70.20
Systems, installations and details 77.03
Vessels subject to regulations 70.05
Marine inspector:
Definition 70.10-25
Maritime Administration, U.S.: Vessels subject to inspection ..... 70.05-1(a)(3)
Markings:
On fire and emergency equipment, etc 78.47
On fire detecting systems:
Alarm, ventilation failure 78.47-75
Automatic sprinkling ..... 76.25-25, 76.25-35(k)
Carbon dioxide alarm 78.47-9
Electric ..... 76.27-15(g)
Fire detecting and manual alarm, automatic sprinkler, and smoke detecting alarm bells 78.47-13
Fire doors 78.47-35
Fire extinguishing system branch lines 78.47-15
Lifesaving Appliances 78.47-45
Manual alarm ..... 76.35-15(f)
Manual alarm boxes 78.47-10
Pneumatic ..... 76.30-15(g)
Smoke ..... 76.33-20(h)
Supervised patrol ..... 78.30-10(d)
Supervised patrol stations 78.47-23
On fire extinguishing systems:
Automatic sprinkling 76.25-25
Carbon dioxide 76.15-10, 76.15-30
Fire extinguishing system controls 78.47-17
Fire hose stations 78.47-20
Fire main 76.10-15
Foam 76.17-10
Hand portable fire extinguishers 78.47-30
Manual sprinkling 76.23-15
Valves and closing appliances 78.47-38
On vessels 78.50
Draft marks 78.50-10
Hull markings 78.50-5
Load line marks 78.50-15
Mask. (See Gas mask)
Means of escape:
Doors ..... 72.05-25(a)
Elevators ..... 72.05-20(f)

Exit signs 78.47-40
From main vertical zones 72.05-20
General requirements 72.10
Mechanical ventilation. (See Ventilation)
Medical kit. (See First aid kit)
Messroom. (See also Accommodation space) 72.20-30
Miscellaneous spaces for structural fire protection ..... 72.05-5(f)
Motorboat: Motor vessel 70.10-29
Motor vessel, definition of 70.10-29
Muster list (Station bill) 78.13-1, 78.17-50

N

Name of vessel:
On equipment 78.47
On vessel 78.50-5
Natural ventilation. (See Ventilation)
Navigation bridge visibility 72.04
Net tonnage marked on main beam 78.50-5
New construction, plans and specifications required for 71.65-5
Notice of casualty. (See Casualty)
Notice to mariners 78.05
Notices. (See markings)
Nozzle, fire hose. (See Fire hose nozzle)

O

Ocean:
Definition of 70.10-31
Inland routes 70.05-7
Service; anchors, chains and hawsers for 77.07-5
Office. (See Accommodation space)
Officer accommodations. (See also Accommodation space) 72.20
Officer in Charge, Marine Inspection, defined 70.10-33
Official log. (See Logbook)
Official number on main beam 78.50-5
Oil:
Lockers. (See Service space)
Oil lockers. (See Service space)
OMB control numbers 70.01-15
Openings:
In watertight bulkheads. (See Bulkhead)
Keep closed at sea 78.17-35
Manholes in double bottoms. (See Double bottom)
Operation of vehicles in enclosed locations 78.83
Special operating conditions 78.83-1
Operations:
Carrying of excess steam 78.55
Compliance with provisions of certificate of inspection 78.60
Display of plans 78.45
Doors closed at sea 78.15
Drills 78.13-1, 78.17-50
Emergency training 78.13-1, 78.17-50
Exhibition of license 78.65
General ..... Part 78
Improper use of searchlight 78.27
Instructions to passengers 78.47-45
Logbook entries 78.37
Lookout, pilothouse watch, supervised patrol, and watchmen 78.30

Markings for lifesaving appliances 78.47-45
Markings on equipment 78.47
Markings on vessel 78.50
Musters 78.13-1, 78.17-50
Notice of casualty and voyage records 78.07
Notice to mariners and aids to navigation 78.05
Persons allowed in pilothouse and on navigation bridge 78.10
Precautions for vehicular ferries 78.40
Reports of accidents, repairs, and unsafe equipment 78.33
Routing instructions 78.57
Stowage locations 78.47-45
Tests, drills, and inspections 78.17
Unnecessary whistling 78.23
Oxygen breathing apparatus. (See Self-contained breathing apparatus)

P

Paint: Fire protection 72.05-45
Paint locker. (See also Service space)
Pantry:
General. (See Service space)
Isolated. (See Accommodation space)
Passageways. (See Corridors)
Passenger:
Barges. (See Barges)
Carrying on excursions 71.10
Carrying when proceeding to another port for repair 71.05-10
Corridors, dead end 72.10-30
Definition 70.10-34
Passenger for hire, definition ..... 70.10-34(b)
Steerage 72.25
Passenger Accommodations. (See also Accommodation space)
General 72.25
Location of 72.25-10
Sanitary inspection of (See Sanitary inspection)
Separate from crew ..... 72.25-15(a)
Steerage 72.25
Toilet facilities, excursion boats, ferryboats, and barges 72.25-15
Ventilation 72.15-20
Passenger vessel 70.10-35
Peak bulkhead. (See Bulkhead)
Penetration. (See Opening)
Period of validity of certificate of inspection 71.01-10
Permit:
To engage in excursions 71.10
To proceed to another port for repair 71.05
Photographic shop. (See Service space)
Pilot boarding equipment:
Annual inspection of 71.25-10
Definition of 70.10-36
General requirements 77.40, 78.90-1
Initial inspection of 71.20-15
Maintenance of ..... 78.90-1(a)
Pilot boarding operation 78.90-1
Pilothouse
Persons allowed in 78.10
Watch 78.30-5
Piping:
Fire extinguishing systems:

Automatic sprinkling....76.25
Carbon dioxide....76.15
Fire main....76.10-15
Foam....76.17-15
Manual sprinkling....76.23-20
Smoke detecting....76.33-15
Systems, general....77.03
Through bulkheads (See Bulkheads)
Plan:
Approval required before inspection....71.20-10
Display of....78.45
Procedure for approval....71.65
Procedure for submittal....71.65-15
Required for alterations....71.55-1
Required, general....71.65
Pneumatic fire detecting system:
Alarm....76.30-15(g)
Electrical requirements....76.30-15(e)
General details....76.30
Inspection (See Fire detecting system)
Location and spacing of tubing....76.30-10
Marking....76.30-15(g)
Operation and installation....76.30-15
Plans to be displayed....78.45
Where required....76.05-1
Zoning....76.30-5
Point of access: Definition....70.10-36
Pilot boarding equipment....77.40-1
Pilot boarding operations....78.90-1
Port:
Gangway, cargo, and coaling. (See Openings in vessel's sides)
Lights....78.16
Portable extinguisher. (See Hand portable fire extinguisher)
Portable magazine chest: Marking of....78.47-70
Portable plate: Manholes in double bottom. (See Double bottom)
Prohibited location in bulkheads. (See Bulkhead)
Posting:
Certificates:
Exemption....71.75-10
Inspection....71.01-5
Safety....71.75-5
Temporary....71.01-15
Instructions for fire detecting systems:
Automatic sprinkling....76.25-35(j)
Electric....76.27-15(f)
Manual alarm....76.35-15(e)
Pneumatic....76.30-15(f)
Smoke....76.33-20(g)
Instructions for fire extinguishing systems:
Automatic sprinkling....76.25-35(j)
Carbon dioxide....76.15-10(h)
Foam....76.17-10(c)
Licenses....78.65
Permit to engage in excursions....71.10-15
Permit to proceed to another port for repair....71.05-15
Plans....78.45
Stability letter....78.12-1
Station bill....78.13-1

Printing shop. (See Service space)
Projection room. (See also Service space)
  Construction 72.05-10
  Ventilation 72.05-50
Propulsion machinery, fire extinguishing systems required for spaces containing 76.05-20
Public space. (See also Accommodation space):
  Means of escape from 72.10-35
Pump:
  Automatic sprinkling system 76.25-15, 76.25-20, 76.25-35
  Fire. (See Fire pump)
  Foam extinguishing system ..... 76.17-5(c), 76.17-10(b)
  Fuel oil. (See Fuel oil unit)
  Manual sprinkling system 76.23-10, 76.23-15
Purpose of regulations 70.01-1

Q

Quarters. (See Accommodation space)

R

Radio:
  Annual inspection 71.25
  Initial inspection 71.20
Radio room. (See Safety area)
Rail, type and size required 72.40
Rations. (See Provisions)
Recessed bulkhead. (See Bulkhead)
Recognized classification society, defined 70.10-41
Records, voyage. (See Voyage records)
Red hand flare. (See Hand flare)
Refrigerated cargo space. (See Cargo space)
Refrigerated space alarm system 77.05
Refrigerated store room. (See Store room)
Refrigeration gas mask. (See Gas mask)
Register tonnage, gross 70.05-20
Regulations:
  Authority and purpose 70.01
  Application 70.05
Reinspection 71.30
Repair:
  After accident 71.40
  Notice of 71.55
  Permit to proceed to another port for 71.05
Report of accident 78.33
Repairs of boilers and pressure vessels 78.33-1
  Accidents to machinery 78.33-5
  Notice required before repairs 78.33-10
Reporting of casualty. (See Casualty)
Respiratory protection. (See Emergency equipment)
Right of appeal 70.01-7
Rivers:
  Definition of 70.10-39
Routing instructions 78.57
Rudder angle indicator system 77.05
Rug:
  Fire protection ..... 72.05-10(n)
  Passing through doors ..... 72.05-25(b)(6), (c)(5)

With fire resistant furnishings ..... 72.05-55(a)(4)

S

Safety certificate:
Foreign vessels 70.05-3
Required 71.75
Safety valve: prohibition against tampering with 78.55
Sailing vessel, definition of 70.10-42
Sales room. (See Accommodation space)
Sanitation:
Annual inspection 71.25-40
Crew accommodations 72.20-15
Master and chief engineer responsible for 78.17-25
Monthly inspection 71.45
Searchlight:
Improper use prohibited 78.27
Self-contained breathing apparatus:
As emergency equipment 77.30
Marking of stowage space for 78.47-27
Semiportable fire extinguishing system:
Annual inspection 71.25-20
Classification 76.50-5
Hose and nozzle for ..... 76.50-5(c)
Location 76.50-10
When required 76.05-25
Service space:
Bulkheads and decks 72.05-10
Definitions, for structural fire protection ..... 72.05-5(c)
Fire protection equipment for 76.05
Windows and airports 72.05-30
Shell connections 77.03
Shifting boards in tonnage opening 72.05-35
Shore connection, fire main ..... 76.10-10(c)
Short international voyage, defined 70.10-43
Shower. (See Washroom)
Signal:
Signaling lamp, daylight 77.05
Sliding watertight door. (See Watertight door)
Smoke detecting system:
Alarm 76.33-20
Electrical requirements ..... 76.33-20(f)
General details 76.33
Inspection, periodic 78.17-65
Instructions ..... 76.33-20(g)
Locations and spacing of accumulators 76.33-10
Operation and installation 76.33-20
Piping 76.33-15
Plans to be displayed 78.45
Where required 76.05-1
Zoning 76.33-5
Sounding equipment 77.27
Spaces specially suitable for vehicles, definition of 70.10-44
Spanner, required at fire hydrant ..... 76.10-10(g)
Specifications required for new construction 71.65-5
Spray nozzle. (See Fire hose nozzle)
Stability:
Letter, posting of 78.12-1

Requirements, verification of vessel compliance with 78.17-22
Stairway. (See also Safety area):
Doors to ..... 72.05-25(b)
Enclosures 72.05-20
Fire resisting furnishings in ..... 72.05-55(c)
Ventilation ..... 72.05-50(f)
Width of 72.10-25
Standard fire test, defined ..... 72.05-5(g)
Stateroom. (See Crew accommodations; Passenger accommodations)
Station bill
Master's responsibility to prepare and post 78.13-1
Muster lists, emergency signals, and manning 78.17-50
Steam smothering system:
General details 76.13
Inspection. (See Fire extinguishing system)
Steel or other equivalent metal: Definition ..... 72.05-5(i)
Steering system:
Details 77.03
Instructions for changing gear 78.47-55
Notice for rudder orders 78.47-57
Rudder angle indicating system 77.05
Testing 78.17-15
Storage space:
Generally. (See Service space)
Isolated. (See Accommodation space)
Storm rail. (See Rail)
Stowage:
Buoyant apparatus. (See Buoyant apparatus)
Emergency equipment 77.30-10
Fire hose ..... 76.10-10(g)
Stranding, notice of 78.07
Structural fire protection 72.05, 72.15-5
Structural insulation. (See Insulation)
Structure. (See Construction)
Subdivision: Plans and specifications for new construction 71.65-5
Structural requirements 72.01-25
Subdivision bulkhead. (See Bulkhead)
Subdivision load lines. (See Load lines)
Supervised patrol:
Details 78.30-10
Inspection. (See Fire detecting system)
Markings ..... 78.30-10(d)
When required 76.05-10
Survey: Generally. (See Inspection)

T

Tank:
Cargo, fire extinguishing system required 76.05-20
Construction 72.01-25
Double bottom. (See Double bottom)
Pressure, automatic sprinkling 76.25-20
Vent and sounding systems 77.03
Telephone, sound powered 77.05
Temporary certificate of inspection 71.01-15
Test. (See Inspection)
Tiller. (See Rudder)
Toilet space. (See Washroom)
Tonnage opening:

Considered closed for carbon dioxide extinguishing calculations ..... 76.15-5(c)(2)
Shifting boards 72.05-35
Trim joiner 72.05-15
Tunnel:
Access through bulkheads. (See Bulkhead)

U

Underwriters' Laboratories, Inc ..... 76.10-10(2)
United States flag vessels 70.05-1

V

Validity, period of, for certificate of inspection 71.01-10
Valve. (See also piping):
Fire detecting systems:
Automatic sprinkling 76.25-25, 76.25-30
Smoke detecting 76.33-15, 76.33-20
Fire extinguishing system:
Automatic sprinkling 76.25-25, 76.25-30
Carbon dioxide 76.15-10, 76.15-15
Fire main 76.10-5, 76.10-10, 76.10-15
Foam 76.17-10, 76.17-15
Manual sprinkling 76.23-15, 76.23-20
In bulkheads. (See Bulkhead)
Testing, for subdivision 78.17-5
Vehicles in enclosed location, operation of 78.83
Special operating conditions 78.83-1
Vehicles, spaces specially suitable for 70.10-44
Vehicular space. (See also Cargo space):
Chains or barriers required 72.40-15
On ferries 78.40
Specially suitable 70.10-44
Veneer:
Combustible on bulkheads 72.05-15
Combustible on doors ..... 72.05-25(a)(7)
Ventilation:
Fire protection 72.05-50
General 72.15
Insulation for ducts 72.05-40
Plans displayed 78.45
Stopping of, when carbon dioxide extinguishing system used 76.15-35
Vents in doors 72.05-25
Vents opening into crew accommodations 72.15-20
Ventilation for closed spaces 72.15-15
Verification of vessel compliance with applicable stability requirements 78.17-22
Vessel:
Definition of 70.10-45
Foreign 70.05-3
Inspection and certification 71.01
Inspection standards 71.15
International voyages, applicability of subchapter to vessels on 70.05-10
Laid up, dismantled, and out of commission ..... 70.05-1(a)(2)
Markings on equipment 78.47
Passenger vessel, definition 70.10-35
Public ..... 70.05-1(a)(3)
Subject to regulations 70.05
United States flag 70.05-1

U.S. Maritime Administration ..... 70.05-1(a)(3)
Verification of compliance with stability requirements 78.17-22
Vessels contracted for ..... 70.05-5(a)
Vessels for ocean or unlimited coastwise routes 70.05-7
Visibility from navigation bridge 72.04
Voice tube 77.05
Void spaces ..... 72.05-10(1)
Voyage records 78.07

W

Washroom. (See also Accommodation space):
Construction 72.20-15
Crew hospital 72.20-35
General requirements 72.20-25
Passenger accommodations of excursion boats, ferry boats, and barges 72.25-15
Watchmen 78.30-15
Water:
Availability for fire extinguishment 76.10-3
Water spray extinguishing system:
Plans displayed 78.45
Where required 76.05-20
Watertight bulkheads. (See Bulkhead)
Watertight door:
Annual inspection 71.25-25
Daily and weekly inspection and operation 78.17-3
Kept closed at sea 78.15, 78.17-35
Location of. (See Bulkhead)
Marking 78.47-37
Power operated substituted for magnetically controlled doors ..... 72.05-25(b)(9)(ii)
Prohibited location for access. (See Bulkhead)
To machinery space or bunker. (See Bulkhead)
Weather deck, access to 72.10-45
Well, in double bottom. (See Double bottom)
Whistle:
Testing 78.17
Unnecessary whistling prohibited 78.23
Window, fire protection 72.05-30
Wire inserted glass:
In doors 72.05-25
In windows and airports 72.05-30
Wireless. (See Radio)
Wiring through bulkheads. (See Bulkhead)
Work vests:
Application 78.36-1
Approved types 78.36-5
Hybrid 78.36-25
Shipboard inspections 78.36-20
Shipboard stowage 78.36-15
Use 78.36-10
Work space, defined ..... 72.05-5(j)

Z

Zone:
Fire detecting and extinguishing systems:
Automatic sprinkling 76.25-5
Electric 76.27-5

Manual alarm 76.35-5
Manual sprinkling 76.23-5
Pneumatic 76.30-5
Smoke 76.33-5
Horizontal. (See Horizontal zone)
Main vertical. (See Main vertical zone)