



# Old Subchapter "I" "1995"

OCS NCOE Email:

[HQS-DG-OCS-NCOE@uscg.mil](mailto:HQS-DG-OCS-NCOE@uscg.mil)

OCS NCOE Website:

[//www.dco.uscg.mil/OCSNCOE/](http://www.dco.uscg.mil/OCSNCOE/)

(Page Intentionally left Blank)

# "Old" Subchapter I

## Parts included in This Subchapter

Part 90 General Provisions	Page 5
Part 91 Inspection and Certification	Page 17
Part 92 Construction and Arrangement	Page 45
Part 93 Stability	Page 57
Part 94 Lifesaving Equipment	Page 61
Part 95 Fire Protection Equipment	Page 90
Part 96 Vessel Control and Misc Systems and Equipment	Page 108
Part 97 Operations	Page 241
Part 98 Special Construction, Arrangements, and Provisions for CDC in Bulk	Page 258

## SUBCHAPTER I—CARGO AND MISCELLANEOUS VESSELS

### PART 90—GENERAL PROVISIONS

#### Subpart 90.01—Authority and Purpose

##### Sec.

- 90.01-1 Purpose of regulations.
- 90.01-5 Assignment of functions.
- 90.01-7 Right of appeal.
- 90.01-15 OMB control numbers assigned pursuant to the Paperwork Reduction Act.

#### Subpart 90.05—Application

- 90.05-1 Vessels subject to requirements of this subchapter.
- 90.05-5 Specific application noted in text.
- 90.05-7 Ocean or unlimited coastwise vessels on inland and Great Lakes routes.
- 90.05-10 Application to vessels on an international voyage.
- 90.05-20 Applicability to offshore supply vessels.
- 90.05-25 Seagoing barge.
- 90.05-30 Portable tanks—interpretive rulings.
- 90.05-35 Flammable and combustible liquid cargo in bulk.

#### Subpart 90.10—Definition of Terms Used in This Subchapter

- 90.10-1 Approved.
- 90.10-2 Barge.
- 90.10-3 Carrying passengers for hire.
- 90.10-5 Carrying freight for hire.
- 90.10-7 Commandant.
- 90.10-9 Coast Guard District Commander.
- 90.10-11 Coastwise.
- 90.10-12 Gas free.
- 90.10-13 Great Lakes.
- 90.10-14 Headquarters.
- 90.10-15 Industrial personnel.
- 90.10-16 Industrial vessel.
- 90.10-19 Lakes, bays, and sounds.
- 90.10-20 Liftboat.
- 90.10-21 Marine inspector or inspector.
- 90.10-23 Motorboat.
- 90.10-25 Ocean.
- 90.10-27 Officer in charge, marine inspection.
- 90.10-29 Passenger.
- 90.10-30 Pilot boarding equipment and point of access.
- 90.10-33 Rivers.
- 90.10-35 Recognized classification society.
- 90.10-36 Seagoing barge.
- 90.10-37 Vessel.
- 90.10-38 Specially suitable for vehicles.
- 90.10-40 Offshore supply vessels.
- 90.10-42 Tankerman

#### Subpart 90.15—Equivalents

- 90.15-1 Conditions under which equivalents may be used.

#### Subpart 90.20—General Marine Engineering Requirements

- 90.20-1 Marine engineering details.

#### Subpart 90.25—General Electrical Engineering Requirements

- 90.25-1 Electrical engineering details.

#### Subpart 90.30—Special Provisions

- 90.30-1 Vessels acquired or documented under the act of August 9, 1954.
- 90.30-5 Installations of equipment made during the unlimited national emergency declared by the President on May 27, 1941.
- 90.30-10 Existing offshore supply vessels.

#### Subpart 90.35—American Bureau of Shipping's Standards

- 90.35-1 Standards to be used.
- 90.35-5 Where obtainable.

AUTHORITY: 46 U.S.C. 3306, 3703; 49 U.S.C. 5103, 5106; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16970, Dec. 30, 1965, unless otherwise noted.

#### Subpart 90.01—Authority and Purpose

##### § 90.01-1 Purpose of regulations.

(a) The purpose of the regulations in this subchapter is to set forth uniform minimum requirements for cargo and miscellaneous vessels, as listed in Column 5 of Table 90.05-1(a), in accordance with the intent of title 52 of the Revised Statutes and acts amendatory thereof or supplemental thereto, as well as to implement various International Conventions for Safety of Life at Sea and other treaties which affect the merchant marine. The regulations are necessary to carry out the provisions of law affecting cargo and miscellaneous vessels and such regulations have the force of law.

**§90.01-5 Assignment of functions.**

(a) The Department of Transportation Act (Pub. L. 89-670, 80 Stat. 931-950, 49 U.S.C. 1651-1659), transferred to and vested in the Secretary of Transportation “\* \* \* all functions, powers, and duties, relating to the Coast Guard of the Secretary of the Treasury and of other officers and offices of the Department of the Treasury” (subsection 6(b)(1), 49 U.S.C. 1655(b)). This transfer is subject to certain conditions, modifications, and exceptions as set forth in such act. By a rule in 49 CFR 1.4(a) the Secretary of Transportation delegated to the Commandant, U.S. Coast Guard authority to exercise certain functions, powers, and duties as set forth in subsections 6(a)(4), 6(b)(1), and 6(g) of such act (49 U.S.C. 1655), subject to conditions, exceptions and modifications as described in 49 CFR part 1. By a rule in 49 CFR 1.9 the Secretary of Transportation continued in effect actions taken prior to April 1, 1967.

(b) The Commandant, U.S. Coast Guard, in a notice dated March 31, 1967, and effective April 1, 1967 (32 FR 5611), approved the continuation of orders, rules, regulations, policies, procedures, privileges, waivers, and other actions, which had been made, allowed, granted, or issued prior to April 1, 1967, and provided that they shall continue in effect according to their terms until modified, terminated, repealed, superseded, or set aside by appropriate authority.

[CGFR 68-32, 33 FR 5717, Apr. 12, 1968]

**§90.01-7 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]

**§90.01-15 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 record-keeping 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.
§91.27-13 .....	2115-0517
§91.40-3 .....	2115-0554
§91.40-6 .....	2115-0554
§97.15-7 .....	2115-0589
§97.15-17 .....	2115-0589

[CGD 88-072, 53 FR 34297, Sept. 6, 1988, as amended by CGD 82-004a, 55 FR 2525, Jan. 25, 1990; CGD 89-037, 57 FR 41822, Sept. 11, 1992]

**Subpart 90.05—Application**

**§90.05-1 Vessels subject to requirements of this subchapter.**

(a) This subchapter shall be applicable to all United States flag vessels indicated in Column 5 of Table 90.05-1(a) and to all such foreign vessels which carry 12 or less passengers from any port in the United States to the extent prescribed by law, except as follows:

- (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 equipment certificate.
- (2) Any vessel operating exclusively on inland waters which are not navigable waters of the United States.
- (3) Any vessel while laid up and dismantled and out of commission.
- (4) 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.

(b) Notwithstanding the exception previously noted in paragraph (a)(1) 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.

(c) Notwithstanding the exception noted in paragraph (a)(1) of this section, each foreign vessel shall report marine casualties occurring while the vessel is in the navigable waters of the United States as required by Subpart 97.07.

TABLE 90.05-1(a)  
[See footnotes at end of table]

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

<p>Vessels not over 15 gross tons.</p> <p>Vessels over 15 gross tons except seagoing motor vessels of 300 gross tons and over.</p>	<p>All vessels carrying combustible or flammable liquid cargo in bulk.</p> <p>All vessels carrying combustible or flammable liquid cargo in bulk<sup>c</sup>.</p>	<p>c. Towing and fishing vessels, in other than ocean and coastwise service, may carry persons on the legitimate business of the vessel, in addition to crew, but not to exceed one for each net ton of the vessel.</p> <p>All vessels carrying more than 6 passengers<sup>7</sup>.</p> <p>1. All vessels carrying more than 12 passengers on an international voyage, except yachts.</p> <p>2. All vessels not over 65 feet in length which carry more than 6 passengers<sup>7</sup>.</p> <p>3. All other vessels of over 65 feet in length carrying passengers for hire except documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.</p>	<p>Those vessels carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171-178.</p> <p>All vessels carrying freight for hire except those covered by columns 3 and 4.</p>	<p>All vessels except those covered by columns 3, 4, 5, and 7.</p> <p>.....do .....</p>	<p>None .....</p> <p>.....do .....</p>	<p>All vessels carrying in bulk the cargoes listed in table 1 of pt. 153 and table 4 of pt. 154.</p> <p>Do.</p>
--	---	--	--	---	--	---

Motor .....



TABLE 90.05-1(a)—Continued  
[See footnotes at end of table]

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

Non-self propelled .....	.....do .....	All vessels carrying passengers for hire.	.....do .....	None .....	None .....	Do.
Vessels over 700 gross tons.	.....do .....	All vessels carrying combustible or liquid cargo in bulk.	All vessels carrying more than 6 passengers <sup>7</sup> .	.....do .....	All barges carrying passengers except those covered by column 4.	All tank barges <sup>11</sup> carrying in bulk the cargoes listed in table 151.05 of this chapter. <sup>11</sup>
Vessels less than 100 gross tons.	All vessels carrying combustible or liquid cargo in bulk.	All vessels carrying more than 6 passengers <sup>7</sup> .	.....do .....	All barges carrying passengers except those covered by columns 4 and 7.	All tank barges <sup>11</sup> carrying in bulk the cargoes listed in table 151.05 of this chapter. <sup>11</sup>	All tank barges <sup>11</sup> carrying in bulk the cargoes listed in table 151.05 of this chapter. <sup>11</sup>
Vessels 100 gross tons or over.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying passengers for hire.	All seagoing barges except those covered by columns 3 and 4; and those inland barges carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171-178.	All seagoing barges engaged in oceanographic research.	All seagoing barges engaged in oceanographic research.	All seagoing barges engaged in oceanographic research.

Footnotes to Table 90.05-1(a):

<sup>1</sup> 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 aftmost part of the vessel, measured parallel to the centerline.

<sup>2</sup> Subchapters E (Lead Lines), F (Marine Engineering), J (Electrical Engineering), and N (Dangerous Cargoes) of this chapter may also be applicable under certain conditions. The provisions of 48 CFR parts 171-178 apply whenever hazardous materials are on board vessels (including motorboats), except when specifically exempted by law.

<sup>3</sup> Public nautical schools, other than vessels of the Navy and Coast Guard, shall meet the requirements of part 107 of subchapter H (Nautical Schools) of this chapter. Civilian nautical schools, as defined by 46 U.S.C. 1331, shall meet the requirements of subchapter H (Passenger Vessels) and part 168 of subchapter H (Nautical Schools) of this chapter.

<sup>4</sup> 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.

<sup>5</sup> 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 shall meet the requirements of subchapter D (Tank Vessels) in addition to the requirements of subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter.

<sup>6</sup> Any vessel on an international voyage is subject to the requirements of the International Convention for Safety of Life at Sea, 1974.

<sup>7</sup> The meaning of the term "passenger" is as defined in the Act of May 10, 1956 (Sec. 1, 70 Stat. 151; 48 U.S.C. 390). On oceanographic vessels scientific personnel on board shall not be deemed to be passengers nor seamen, but for calculations of lifesaving equipment, etc., shall be counted as persons.

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

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

<sup>10</sup> Bulk dangerous cargoes are cargoes specified in table 151.01-10(b), in table I of part 153, and in table 4 of part 154 of this chapter.

<sup>11</sup> For manned tank barges see § 151.01-10(c) of this chapter.

[CGFR 65-50, 30 FR 16970, Dec. 30, 1965, as amended by CGFR 67-83, 33 FR 1109, Jan. 27, 1968; CGFR 70-10, 35 FR 3711, Feb. 25, 1970; CGD 73-96, 42 FR 49025, Sept. 26, 1977; CGD 77-042, 42 FR 63943, Dec. 19, 1977; CGD 86-063, 53 FR 36025, Sept. 16, 1988; CGD 86-063, 53 FR 46871, Nov. 21, 1988; CGD 90-008, 55 FR 30661, July 26, 1990]

**§ 90.05-5 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 cargo or miscellaneous 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.

**§ 90.05-7 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 routes, including the Great Lakes.

**§ 90.05-10 Application to vessels on an international voyage.**

(a) Except for yachts and fishing vessels and 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 of at least 500 gross tons; 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 the 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 de Rosiers to West Point, Anticosti Island, the 63d 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 or lifesaving requirements of this subchapter if—

(1) The vessel does not proceed more than 20 miles from the nearest land in the course of its voyage; and

(2) The Commandant determines that the conditions of the voyage render the application of the full lifesaving requirements unreasonable or unnecessary.

[CGD 72-131R, 38 FR 29320, Oct. 24, 1973, as amended by CGD 90-008, 55 FR 30661, July 26, 1990]

**§ 90.05-20 Applicability to offshore supply vessels.**

Offshore supply vessels of 100 gross tons and less than 500 gross tons are subject to inspection under the provisions of this subchapter.

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

**§ 90.05-25 Seagoing barge.**

(a) All nonself-propelled vessels of 100 gross tons and over that proceed on voyages on the high seas or ocean are subject to inspection and certification as seagoing barges.

(b) In applying the laws and regulations to manned seagoing barges, one criterion for invocation of safety

standards is the description of seagoing barges by relative size in gross tons. When it is determined by the Commandant that the gross register tonnage for a particular manned seagoing barge, 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 regulations in this subchapter for a manned seagoing barge of such physical size, the Commandant shall prescribe the regulations to be made applicable to such seagoing barge. 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 manner seagoing barges, and before being permitted to operate such seagoing barges, compliance therewith shall be required. Endorsements or notations on the seagoing barge's certificate of inspection may be made as appropriate.

**§ 90.05-30 Portable tanks—interpretive rulings.**

(a) The phrase "drums, barrels, or other packages," as used in R.S. 4417a, as amended (46 U.S.C. 391a), and in R.S. 4472, as amended (46 U.S.C. 170), is interpreted to mean portable tanks having a maximum capacity of 110 U.S. gallons and Department of Transportation specification cylinders having a water capacity of not more than 1,000 pounds, which are actually loaded and discharged from vessels with their contents intact.

(b) The phrase "inflammable or combustible liquid cargo in bulk" as used in R.S. 4417a, as amended (46 U.S.C. 391a), and in R.S. 4472, as amended (46 U.S.C. 170), is interpreted to include such cargo in portable tanks of a capacity of more than 110 U.S. gallons.

(c) The phrase "liquid cargo" as used in R.S. 4417a, as amended (46 U.S.C. 391a), is interpreted to mean inflammable or combustible liquids.

[CGFR 65-50, 30 FR 16970, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17484, Oct. 29, 1969]

**§ 90.05-35 Flammable and combustible 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 flammable and combustible liquid cargo in bulk in the grades indicated, provided the Certificate of Inspection is endorsed to permit such carriage:

(a) Cargo vessels:

(1) Grades D and E in an integral tank; and

(2) Grades D and E and certain specifically named Grade C in a portable tank, including a marine portable tank (MPT), in accordance with subpart 98.30 or 98.33 of this subchapter.

(b) Miscellaneous Vessels, such as cable, salvage, pile-driving, and oil-drilling-rig vessels:

(1) Grades B, C, D, and E in a fixed independent or integral tank authorized by the commandant;

(2) Grades D and E and certain specifically named Grade C in a portable tank, including an MPT, in accordance with subpart 98.30 or 98.33 of this subchapter.

[CGD 84-043, 55 FR 37410, Sept. 11, 1990, as amended by CGD 90-051, 57 FR 362146, Aug. 12, 1992]

**Subpart 90.10—Definition of Terms Used in This Subchapter**

**§ 90.10-1 Approved.**

This term means approved by the Commandant unless otherwise stated.

**§ 90.10-2 Barge.**

This term means any nonself-propelled vessel.

**§ 90.10-3 Carrying passengers for hire.**

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

**§ 90.10-5 Carrying freight for hire.**

The carriage of any goods, wares, or merchandise or any other freight for a

valuable consideration whether directly or indirectly flowing to the owner, charterer, operator, agent, or any other person interested in the vessel.

**§ 90.10-7 Commandant.**

This term means the Commandant of the Coast Guard.

**§ 90.10-9 Coast Guard District Commander.**

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

**§ 90.10-11 Coastwise.**

Under this designation shall be included all vessels normally navigating the waters of any ocean or the Gulf of Mexico 20 nautical miles or less offshore.

**§ 90.10-12 Gas free.**

This term means free from dangerous concentrations of flammable or toxic gases.

**§ 90.10-13 Great Lakes.**

Under this designation shall be included all vessels navigating the Great Lakes.

**§ 90.10-14 Headquarters.**

This term means the Office of the Commandant, U.S. Coast Guard, Washington, DC 20593-0001.

[CGFR 67-90, 33 FR 1015, Jan. 26, 1968, as amended by CGD 88-070, 53 FR 34534, Sept. 7, 1988]

**§ 90.10-15 Industrial personnel.**

This term means every person carried on board an industrial vessel for the sole purpose of carrying out the industrial business or functions of the industrial vessel. Examples of industrial personnel include tradesmen, such as mechanics, plumbers, electricians, and welders; laborers, such as wreckers and construction workers; and other persons, such as supervisors, engineers,

technicians, drilling personnel, and divers.

[CGFR 67-90, 33 FR 1015, Jan. 26, 1968]

**§ 90.10-16 Industrial vessel.**

This term means every vessel which by reason of its special outfit, purpose, design, or function engages in certain industrial ventures. Included in this classification are such vessels as drill rigs, missile range ships, dredges, cable layers, derrick barges, pipe lay barges, construction and wrecking barges. Excluded from this classification are vessels carrying freight for hire or engaged in oceanography, limnology, or the fishing industry.

[CGFR 67-90, 33 FR 1015, Jan. 26, 1968]

**§ 90.10-19 Lakes, bays, and sounds.**

Under this designation shall be included all vessels navigating the waters of any of the lakes, bays, or sounds other than the waters of the Great Lakes.

**§ 90.10-20 Liftboat.**

*Liftboat* means an offshore supply vessel with moveable legs capable of raising it's hull above the surface of the sea.

[55 FR 2525, Jan. 25, 1990]

**§ 90.10-21 Marine inspector or inspector.**

These terms mean any person from the civilian or military branch of the Coast Guard assigned under the superintendence and direction of an Officer in Charge, Marine Inspection, or any other person as may be designated for the performance of duties with respect to the inspection, enforcement, and administration of title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

**§ 90.10-23 Motorboat.**

This term means any vessel indicated in Column 5 of Table 90.05-1(a) 65 feet in length or less which is propelled by machinery (including steam). The length shall be measured from end to end over the deck excluding sheer. This term includes a boat temporarily or permanently equipped with a detach-

able motor and any such boat when so propelled is subject to the applicable provisions of the Act of April 25, 1940, as amended (secs. 1-22, 54 Stat. 163-167, as amended, 46 U.S.C. 526-526u), and the regulations promulgated thereunder. For the purpose of this subchapter, motorboats are included under the term "vessel" unless specifically noted otherwise. The various classes of motorboats are as follows:

Class A—Any motorboat less than 16 feet in length.

Class 1—Any motorboat 16 feet or over and less than 26 feet in length.

Class 2—Any motorboat 26 feet or over and less than 40 feet in length.

Class 3—Any motorboat 40 feet or over and not more than 65 feet in length.

#### § 90.10-25 Ocean.

Under this designation shall be included all vessels navigating the waters of any ocean or the Gulf of Mexico more than 20 nautical miles offshore.

#### § 90.10-27 Officer in charge, marine inspection.

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

#### § 90.10-29 Passenger.

A passenger is every person other than the master and the members of the crew or other persons employed or engaged in any capacity on board a vessel in the business of that vessel. In the case of a vessel on an international voyage a child under 1 year of age is not counted as a passenger.

#### § 90.10-30 Pilot boarding equipment and point of access.

(a) *Pilot Boarding Equipment* means a pilot ladder, accommodation ladder, pilot hoist, or combination of them as required by this subchapter.

(b) *Point of Access* means the place on deck of a vessel where a person steps onto or off of pilot boarding equipment. [CGD 79-032, 49 FR 25455, June 21, 1984]

#### § 90.10-33 Rivers.

Under this designation shall be included all vessels whose navigation is restricted to rivers and/or canals exclusively, and to such other waters as may be so designated by the Coast Guard District Commander.

#### § 90.10-35 Recognized classification society.

The term *recognized classification society* means the American Bureau of Shipping or other classification society recognized by the Commandant.

#### § 90.10-36 Seagoing barge.

The phrase *every seagoing barge of one hundred gross tons or over* in subsections 395(a) and 395(b), title 46, U.S.C. (section 10, 35 Stat. 428, as amended), includes every nonself-propelled vessel of 100 gross tons or over, if such vessel will navigate the high seas or ocean. The phrase *nonself-propelled vessel* means a vessel without sufficient means for self-propulsion and is required to be towed.

#### § 90.10-37 Vessel.

Where the word *vessel* is used in this subchapter, it shall be considered to include all vessels indicated in Column 5 of Table 90.05-1(a), except as otherwise noted in this subpart.

#### § 90.10-38 Specially suitable for vehicles.

A space which is *specially suitable for vehicles* is one 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 92.15, 95.05, 95.15, 96.05, 97.36, 97.37, and 97.80 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 provisions of 49 CFR 176.905.

[CGFR 66-33, 31 FR 15284, Dec. 5, 1966, as amended by CGD 86-033, 53 FR 36025, Sept. 16, 1988]

**§ 90.10-40 Offshore supply vessels.**

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

(b) An existing offshore supply vessel is one that was operating as such on or before January 1, 1979, or that, if not in service of any kind on or before that date, was contracted for on or before that date and entered service as such before October 6, 1980.

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

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

**§ 90.10-42 Tankerman.**

The following ratings are established in part 13 of this chapter. The terms for the ratings identify persons holding valid merchant mariners' documents for service in the ratings issued under that part:

- (a) Tankerman-PIC.
- (b) Tankerman-PIC (Barge).
- (c) Restricted Tankerman-PIC.
- (d) Restricted Tankerman-PIC (Barge)
- (e) Tankerman-Assistant.
- (f) Tankerman-Engineer.

[CGD 79-116, 60 FR 17157, Apr. 4, 1995]

EFFECTIVE DATE NOTE: At CGD 79-116, 60 FR 17157, Apr. 4, 1995, § 90.10-42 was added, effective March 31, 1996.

**Subpart 90.15—Equivalents**

**§ 90.15-1 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 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 is 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 90.20—General Marine Engineering Requirements**

**§ 90.20-1 Marine engineering details.**

(a) 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 90.25—General Electrical Engineering Requirements**

**§ 90.25-1 Electrical engineering details.**

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

**Subpart 90.30—Special Provisions**

**§ 90.30-1 Vessels acquired or documented under the act of August 9, 1954.**

(a) Vessels acquired or documented under the Act of August 9, 1954 (section 3, 68 Stat. 675; 50 U.S.C. 198), shall be subject to the applicable provisions of title 52 of the Revised Statutes, acts amendatory thereof or supplemental

thereto and the rules and regulations thereunder.

(b) Unapproved lifesaving, firefighting, and other equipment may be continued in service as long as, in the opinion of the Officer in Charge, Marine Inspection, such equipment is in good and serviceable condition. All replacements shall be in accordance with Coast Guard requirements.

**§ 90.30-5 Installations of equipment made during the unlimited national emergency declared by the President on May 27, 1941.**

(a) Boilers, pressure vessels, machinery, piping, electrical, and other installations, including lifesaving, firefighting, and other safety equipment, installed on vessels during the Unlimited National Emergency declared by the President on May 27, 1941, and prior to the termination of title V of the Second War Powers Act, as extended (section 501, 56 Stat. 180, 50 U.S.C. App. 635), which do not fully meet the detailed requirements of the regulations in this chapter, may be continued in service if found to be satisfactory by the Commandant for the purpose intended.

**§ 90.30-10 Existing offshore supply vessels.**

(a) Existing offshore supply vessels of 100 gross tons and less than 500 gross tons that do not possess a valid certificate of inspection must be registered with an officer in charge, marine inspection on or before January 6, 1981. The initial inspection for certification for each registered offshore supply vessel shall be made within two years of the date the vessel is registered.

(b) The registration must be on board the vessel and available for inspection. [CGD 80-133, 45 FR 69244, Oct. 20, 1980]

**Subpart 90.35—American Bureau of Shipping's Standards**

**§ 90.35-1 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.

**§ 90.35-5 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, Two World Trade Center, 106th Floor, New York, NY 10048. These standards may be also examined at the Office of the Commandant (G—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.

[CGFR 65-50, 30 FR 1697, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5718, Apr. 12, 1968; CGD 88-070, 53 FR 34534, Sept. 7, 1988; CGD 88-070, 53 FR 37570, Sept. 27, 1988; CGD 88-070, 53 FR 44011, Nov. 1, 1988; CGD 95-072, 60 FR 50464, Sept. 29, 1995; 60 FR 54106, Oct. 19, 1995]

**PART 91—INSPECTION AND CERTIFICATION**

**Subpart 91.01—Certificate of Inspection**

Sec.

91.01-1 When required.

91.01-5 Posting.

91.01-10 Period of validity.

91.01-15 Temporary certificate.

91.01-20 Expired certificate.

91.01-25 Emergency carriage of more than 16 persons in addition to the crew on vessels not engaged in international voyages.

**Subpart 91.05—Permit to Proceed to Another Port for Repair**

91.05-1 When issued.

91.05-5 To whom issued.

91.05-10 Conditions of permit.

91.05-15 Posting.

**Subpart 91.15—Inspection of Vessels**

91.15-1 Standard in inspection of hulls, boilers, and machinery.

**Subpart 91.20—Initial Inspection**

91.20-1 Prerequisite of certificate of inspection.

91.20-5 When made.

91.20-10 Plans.

91.20-15 Scope of inspection.

91.20-20 Specific tests and inspections.



**Subpart 91.25—Inspection for Certification**

- 91.25-1 Prerequisite of reissuance of certificate of inspection.
- 91.25-5 When made.
- 91.25-10 Scope of inspection.
- 91.25-15 Lifesaving equipment.
- 91.25-20 Fire-extinguishing equipment.
- 91.25-25 Hull equipment.
- 91.25-30 Electrical engineering equipment.
- 91.25-35 Marine engineering equipment.
- 91.25-37 Tanks containing dangerous cargoes.
- 91.25-38 Pollution prevention.
- 91.25-40 Sanitary inspection.
- 91.25-45 Fire hazards.
- 91.25-50 Inspector not limited.

**Subpart 91.27—Reinspection**

- 91.27-1 When made.
- 91.27-5 Scope.
- 91.27-10 Deficiencies in maintenance.
- 91.27-13 Alternative provisions for reinspections of offshore supply vessels in foreign ports.
- 91.27-15 Inspectors not limited.

**Subpart 91.30—Inspection After Accident**

- 91.30-1 General or partial survey.

**Subpart 91.35—Sanitary Inspections**

- 91.35-1 When made.

**Subpart 91.37—Inspection of Cargo Gear**

- 91.37-1 When made.
- 91.37-3 Definitions of terms and words used in this subpart.
- 91.37-5 Tests and examinations of shipboard cargo gear.
- 91.37-10 Cargo gear of special design and limited use.
- 91.37-15 Cargo gear plans required when plans are not approved by a classification society or recognized cargo gear organization.
- 91.37-20 Cargo gear plans approved by a classification society.
- 91.37-23 Cargo gear plans approved by a recognized cargo gear organization.
- 91.37-25 Factors of safety.
- 91.37-30 Loose gear certificates and tests.
- 91.37-35 Test and certification of wire rope.
- 91.37-40 Proof test or cargo gear as a unit.
- 91.37-45 Marking of booms and cranes.
- 91.37-50 Use of wire rope and chains.
- 91.37-55 Annealing.
- 91.37-60 Additions to gear.
- 91.37-65 Alterations, renewals, or repairs of cargo gear.
- 91.37-70 Responsibility of ship's officer for inspection of cargo gear.
- 91.37-75 Records regarding cargo gear.
- 91.37-80 Advance notice that cargo gear testing is desired.

- 91.37-85 Responsibility for conducting requires tests and examination.

**Subpart 91.40—Drydocking**

- 91.40-1 Definitions relating to hull examinations.
- 91.40-3 Drydock examination, internal structural examination, cargo tank internal examination, and underwater survey intervals.
- 91.40-5 Notice and plans required.

**Subpart 91.43—Integral Fuel Oil Tank Examinations**

- 91.43-1 When required.

**Subpart 91.45—Repairs and Alterations**

- 91.45-1 Notice required.
- 91.45-5 Inspection required.

**Subpart 91.50—Special Operating Requirements**

- 91.50-1 Inspection and testing required when making alterations, repairs, or other such operations involving riveting, welding, burning or like fire-producing actions.

**Subpart 91.55—Plan Approval**

- 91.55-1 General.
- 91.55-5 Plans and specifications required for new construction.
- 91.55-10 Plans required for alterations of existing vessels.
- 91.55-15 Procedure for submittal of plans.
- 91.55-20 Number of plans required.

**Subpart 91.60—Certificates Under International Convention for Safety of Life at Sea, 1974**

- 91.60-1 Application.
- 91.60-5 Cargo Ship Safety Construction Certificate.
- 91.60-10 Cargo Ship Safety Equipment Certificate.
- 91.60-15 Cargo Ship Safety Radiotelegraphy Certificate.
- 91.60-20 Cargo Ship Safety Radiotelephony Certificate.
- 91.60-25 Exemption Certificate.
- 91.60-35 Posting of Convention certificates.
- 91.60-40 Duration of certificates.
- 91.60-45 American Bureau of Shipping.

AUTHORITY: 33 U.S.C. 1321(j); 46 U.S.C. 3306; 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 16974, Dec. 30, 1965, unless otherwise noted.

## Subpart 91.01—Certificate of Inspection

### § 91.01-1 When required.

(a) Except as noted in this subpart or subpart 91.05, no vessel subject to inspection and certification shall be operated without a valid certificate of inspection.

### § 91.01-5 Posting.

(a) On vessels of over 25 gross tons, the original certificate of inspection shall, in general, be framed under glass and posted in a conspicuous place where it will be most likely to be observed. On vessels not over 25 gross tons, and on other vessels such as barges, where the framing of the certificate under glass would be impracticable, the original certificate of inspection shall be kept on board to be shown on demand.

### § 91.01-10 Period of validity.

(a) Certificates of inspection will be issued for periods of either 1 or 2 years. Application may be made by the master, owner, or agent for inspection and issuance of a new certificate of inspection at any time during 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.

(c) (1) In the case of the following vessels, modification of the period of validity of the certificate of inspection will be permitted as set forth in this paragraph:

(i) Nonsself-propelled vessels of 100 gross tons and over proceeding on the high seas or ocean for the sole purpose of changing place of employment.

(ii) Nonsself-propelled vessels of 100 gross tons and over making rare or infrequent voyages on the high seas or ocean and returning to the port of departure.

(2) The certificate of inspection may be issued for a specific period of time to cover a described situation or for one voyage only but in no case to ex-

ceed 2 years. The certificate of inspection will include the conditions under which the vessel must operate. Unless the vessel is in compliance with this Subchapter insofar as it applies to seagoing barges of 100 gross tons and over, such vessel shall not carry any person on board while underway, and the certificate of inspection will be endorsed as an unmanned seagoing barge.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGFR 68-82, 33 FR 18901, Dec. 18, 1968; CGD 95-012, 60 FR 48051, Sept. 18, 1995]

### § 91.01-15 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.

### § 91.01-20 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 certificate of inspection did not expire within 15 days after the vessel left the last port of the United States, and that the voyage shall be completed within 30 days after the expiration of the certificate of inspection.

### § 91.01-25 Emergency carriage of more than 16 persons in addition to the crew on vessels not engaged in international voyages.

(a) When a District Commander finds that an emergency situation exists, he authorizes the local Officer in Charge, Marine Inspection, to issue amendments to vessels' certificates of inspection authorizing the carriage of more than 16 persons in addition to the crew.

(b) Upon receipt of an application from a vessel's owner or operator, the Local Officer in Charge, Marine Inspection, amends the vessel's certificate of inspection after—

(1) Additional lifesaving and fire-fighting equipment found necessary by the OCMI has been provided;

(2) A stability evaluation has been performed; and

(3) Any other conditions considered necessary by the OCMI have been satisfied.

[CGD 76-004, 41 FR 32744, Aug. 5, 1976]

### Subpart 91.05—Permit To Proceed to Another Port for Repair

#### §91.05-1 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.

#### §91.05-5 To whom issued.

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

#### §91.05-10 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.

#### §91.05-15 Posting.

(a) The permit shall be carried in a manner similar to that described in §91.01-5 for a certificate of inspection.

### Subpart 91.15—Inspection of Vessels

#### §91.15-1 Standard in inspection of hulls, boilers, and machinery.

(a) In the inspection of hulls, boilers, and machinery of vessels, the standards established by the American Bureau of Shipping, see subpart 90.35 of this subchapter, respecting material and construction 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), or subchapter J (Electrical Engineering) of this chapter shall be accepted as standard by the inspectors.

### Subpart 91.20—Initial Inspection

#### §91.20-1 Prerequisite of certificate of inspection.

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

#### §91.20-5 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.

#### §91.20-10 Plans.

(a) Before application for inspection is made, and before construction is started, the owner or builder shall have plans approved by the Commandant indicating the proposed arrangement and construction of the vessel. The procedure for submitting plans and the list of plans to be supplied is set forth in subpart 91.55.

#### §91.20-15 Scope of inspection.

(a) 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 Fed-

eral 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.

(b) When equipment is installed which is not required by applicable regulations in this subchapter, that equipment shall be inspected and tested as required for such equipment by applicable regulations in subchapter H (Passenger Vessels) of this chapter. For example, fire-detecting systems shall be inspected and tested as required by subpart 71.20 of subchapter H (Passenger Vessels) of this chapter.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5718, Apr. 12, 1968; CGFR 68-82, 33 FR 18901, Dec. 18, 1968; CGD 71-161R, 37 FR 28262, Dec. 21, 1972; 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]

#### §91.20-20 Specific tests and inspections.

(a) The applicable tests and inspections as set forth in subpart 91.25 of this part shall be made at this time. In addition, the following specific tests and inspections shall be made by the inspector.

(1) Installation of lifeboats, davits, and winches—see subpart 94.35 of this subchapter.

(2) Installation of carbon dioxide extinguishing piping—see §95.15-15 of this subchapter.

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

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

(5) For inspection and tests of tanks containing certain dangerous cargoes in bulk, see part 98 of this subchapter.

### Subpart 91.25—Inspection for Certification

#### §91.25-1 Prerequisite of reissuance of certificate of inspection.

(a) An inspection for certification is a prerequisite of the reissuance of a certificate of inspection.

#### §91.25-5 When made.

(a) The inspection for certification will be made only upon 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 located.

#### §91.25-10 Scope of inspection.

The inspection for certification 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, lifesaving appliances, fire-detecting and extinguishing equipment, pilot boarding equipment, pollution prevention equipment, and other equipment, is in satisfactory condition and fit for the service for which it is intended, and that it complies with the applicable regulations for such vessel 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 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5718, Apr. 12, 1968; CGFR 68-82, 33 FR 18901, Dec. 18, 1968; CGD 71-161R, 37 FR 28262, Dec. 21, 1972; 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]

**§91.25-15 Lifesaving equipment.**

(a) At each inspection for certification, except as modified in paragraph (a)(2) of this section, the marine inspector shall conduct the following tests and inspections of lifesaving equipment:

(1) It shall be demonstrated that the air tanks of all lifesaving appliances are airtight.

(2) Each lifeboat shall be lowered to near the water and then be loaded with its allowed capacity, evenly distributed throughout the length, and then be lowered into the water until it is afloat, and be released from the falls. In making this test persons or dead-weight may be used. The total weight used shall be at least equal to the allowed capacity of the lifeboat considering persons to weight 165 pounds each. This test shall be made at least once in each two-year period. If practicable it shall be made at the inspection for certification or at a reinspection.

(3) Each life preserver shall be examined to determine its serviceability. If found to be satisfactory, it will be stamped "Passed," together with the date, the port, and the inspector's initials. If not in a serviceable condition, the life preserver shall be removed from the vessel's equipment, and if beyond repair, shall be destroyed in the presence of the inspector.

(4) All lifeboat winch electrical control apparatus shall be opened up and inspected.

(5) Where gravity davits are installed, it shall be demonstrated that the lifeboat can be swung out and lowered from any stopped position by merely releasing the brake on the lifeboat winch. The use of force to start the davits or the lifeboat winch will not be permitted.

(6) Inflatable liferafts shall be serviced at an approved servicing facility in accordance with the provisions of subpart 160.051 of subchapter Q (Specifications) of this chapter. Inflatable liferafts shall be serviced at an approved servicing facility every 12 months or not later than the next vessel inspection for certification provided the total time since date of last servicing does not exceed 15 months. The period for servicing is computed from the date of last servicing. Except in emer-

gencies no servicing should be done aboard vessels. If at any time external damage is found to the container or straps or if the seal is broken, the Officer in Charge, Marine Inspection, shall be notified and the raft shall be serviced by an approved servicing facility.

NOTE: After the raft has been satisfactorily serviced in the presence of a marine inspector at an approved servicing facility, the raft is repacked and sealed and the carrying case stamped "PASSED" together with the date, port, and the marine inspector's initials.

(7) All other items of lifesaving equipment shall be examined to determine that they are in suitable condition.

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

(b) At each inspection for certification, and more often if necessary, a marine inspector inspects each exposure suit to determine its serviceability. Each exposure suit found not to be in a serviceable condition must be removed from the vessel.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5718, Apr. 18, 1968; CGD 76-003a, 45 FR 24477, Apr. 10, 1980; 45 FR 29588, May 5, 1980]

**§91.25-20 Fire-extinguishing equipment.**

(a) At each inspection for certification and at such other times as considered necessary the inspector shall determine that all fire-extinguishing equipment is in suitable condition and may require such tests as are considered necessary to determine the condition of the equipment. The inspector shall determine if the tests and inspections required by §97.15-60 of this subchapter have been conducted. At each inspection for certification the inspector shall conduct the following tests and inspections of fire-extinguishing equipment:

(1) All hand portable fire extinguishers and semi-portable fire extinguishing systems shall be checked as noted in Table 91.25-20(a)(1). In addition, the hand portable fire extinguishers and semi-portable fire extinguishing systems shall be examined for excessive corrosion and general condition.

(2) Fixed fire-extinguishing systems shall be checked as noted in Table 91.25-20(a)(2). In addition, all parts of the fixed fire-extinguishing systems, shall be examined for excessive corrosion and general conditions.

TABLE 91.25-20(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.
Cartridge operated (water, antifreeze or loaded stream).	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Remove liquid. Clean hose and inside of extinguisher thoroughly. Recharge with clean water, solution, or antifreeze. Insert charged cartridge.
Carbon Dioxide .....	Weigh cylinders. Recharge if weight loss exceeds 10 percent of weight of charge. Inspect hose and nozzle to be sure they are clear. <sup>1</sup>
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 <sup>2</sup> (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 <sup>2</sup> (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.

<sup>1</sup> 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.

<sup>2</sup> Vaporizing-liquid type fire extinguishers containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids shall be removed from all vessels. (See § 95.50-5(e) of this subchapter.)

TABLE 91.25-20(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.
Carbon dioxide .....	Weigh cylinders. Recharge if weight loss exceeds 10 percent of weight of charge. <sup>1</sup>

<sup>1</sup> 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) On all fire-extinguishing systems, all piping controls, valves, and alarms shall be checked to ascertain that the system is in operating condition. In this respect 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 firehose 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.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5718, Apr. 18, 1968; CGD 78-154, 44 FR 13491, Mar. 12, 1979; CGD 84-044, 53 FR 7748, Mar. 10, 1988]

**§ 91.25-25 Hull equipment.**

(a) At each inspection for certification, the inspectors shall conduct the following tests and inspections of hull equipment:

(1) 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.

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

(3) An inspection of the cargo gear shall be required. The inspection may consist of tests and examinations to determine the condition and suitability of the cargo gear. Current valid certifi-

cates and registers of cargo gear, issued by recognized nonprofit organizations or associations approved by the Commandant, may be accepted as prima facie evidence of the condition and suitability of the cargo gear. Cargo gear certificates and registers will not be issued by the Coast Guard.

(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 therein described complies with standards equal to or exceeding those set forth in subpart 91.37.

(c) Competent persons for the purposes of this section and subpart 91.37 are:

(1) Coast Guard marine inspectors;

(2) Surveyors of the organizations or associations approved by the Commandant;

(3) Such other persons as are authorized by the regulations in subpart 91.37 as may be required; and,

(4) 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.

(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.

(e) It is the responsibility of the master to have a ship's officer inspect cargo gear when required by subpart 91.37. For those inspected vessels which do not have valid cargo gear certificates and registers as provided by this section, such vessels will be required to have their shipboard cargo gear undergo tests and examinations in accordance with the provisions of subpart 91.37.

#### **§91.25-30 Electrical engineering equipment.**

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

#### **§91.25-35 Marine engineering equipment.**

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

#### **§91.25-37 Tanks containing dangerous cargoes.**

(a) For inspection and tests of tanks containing certain dangerous cargoes in bulk, see part 98 of this subchapter.

#### **§91.25-38 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]

#### **§91.25-40 Sanitary inspection.**

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

#### **§91.25-45 Fire hazards.**

(a) At each inspection for certification, the inspector shall examine the tank tops and bilges in the machinery

spaces to see that there is no accumulation of oil which might create a fire hazard.

**§91.25-50 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.

**Subpart 91.27—Reinspection**

**§91.27-1 When made.**

(a) At least one reinspection shall be made on each vessel holding a certificate of inspection valid for two years. This reinspection will be made, where possible, between the tenth and fourteenth month of the period for which the certificate is valid.

(b) No written application for reinspection will be required.

**§91.27-5 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 inspection for certification, but will be in less detail unless it is determined that a major change has occurred since the last inspection.

**§91.27-10 Deficiencies in maintenance.**

(a) If the reinspection reveals deficiencies in the maintenance as called for by the regulations in this subchapter, such necessary repairs or improvements shall be made as may be ordered.

**§91.27-13 Alternative provisions for reinspections of offshore supply vessels in foreign ports.**

(a) The owner or operator of an offshore supply vessel of less than 400 gross tons, except liftboats as defined in §90.10-20 of this subchapter, may request authorization to conduct an alternative midperiod examination. The request must be made to the Officer in Charge, Marine Inspection who is assigned responsibility for conducting inspections in the country in which the

vessel is operating and will be examined. To qualify for the alternative midperiod examination, the following requirements must be met:

(1) The request for authorization must be in writing and received by the cognizant Officer in Charge, Marine Inspection before the end of the twelfth month of the period of validity of the vessel's certificate of inspection; and

(2) The vessel is expected to be continuously employed outside of the United States during the tenth through the fourteenth month of the period of validity of the vessel's certificate of inspection.

(b) In determining whether to grant authorization for the alternative midperiod examination, the Officer in Charge, Marine Inspection shall consider the following:

(1) Information contained in previous inspection and drydock examination reports, including the Officer in Charge, Marine Inspection's recommendation for participation in the alternative midperiod examination program, if one has been made;

(2) The nature, number, and severity of any marine casualties or accidents, as defined in §4.03-1 of this chapter, which the vessel has experienced in the last three years;

(3) The nature, number, and severity of any outstanding inspection requirements for the vessel; and

(4) The owner or operator's history of compliance and cooperation in the alternative midperiod examination program, including:

(i) The prompt correction of deficiencies;

(ii) The reliability of previously submitted alternative examination reports; and

(iii) The reliability of representations that the vessel under consideration will be, and other vessels previously examined under this section were, employed outside of the United States for the tenth through the fourteenth month of the periods of validity of their certificates of inspection.

(c) If authorization is granted, the Officer in Charge, Marine Inspection shall provide the applicant written authorization to proceed with the alternative midperiod examination, includ-



ing special instructions when appropriate.

(d) The following conditions must be met for the alternative midperiod examination to be accepted by the Coast Guard in lieu of conducting a reinspection in accordance with §91.27-1 of this subpart.

(1) The alternative midperiod examination must be conducted between the tenth and fourteenth month of the period of validity of the vessel's certificate of inspection.

(2) The alternative midperiod examination must be of the scope detailed in §91.27-5 of this subpart and must be conducted by the vessel's master, owner, operator, or a designated representative of the owner or operator.

(3) Upon completion of the alternative midperiod examination, the person or persons conducting the examination shall prepare a comprehensive report describing the conditions found. This examination report shall contain sufficient detail to allow an evaluation to be made by the Officer in Charge, Marine Inspection to whom the report is submitted that the vessel is fit for the service and route specified on the certificate of inspection. The report must include reports and receipts documenting the servicing of lifesaving and fire protection equipment, and any photographs or sketches necessary to clarify unusual circumstances. Each person preparing the report shall sign it and certify that the information contained therein is complete and accurate.

(4) Unless the vessel's master participated in the alternative midperiod examination and preparation of the examination report, the master shall review the report for completeness and accuracy. The master shall sign the report to indicate review and forward it to the vessel's owner or operator who requested authorization to conduct the examination.

(5) The owner or operator of an offshore supply vessel examined under this subpart must review and submit the report required by paragraph (d)(3) of this section to the Officer in Charge, Marine Inspection who issued the authorization to conduct the alternative midperiod examination. The examination report must be received by the

cognizant Officer in Charge, Marine Inspection before the first day of the sixteenth month of the period of validity of the vessel's certificate of inspection. The forwarding letter or endorsement must be certified and contain the following information:

(i) That the person or persons who conducted the examination acted on behalf of the vessel's owner or operator;

(ii) That the examination report was reviewed by the owner or operator;

(iii) That the discrepancies noted during the examination have been corrected or will be corrected within a stated time frame; and

(iv) That the owner or operator has sufficient personal knowledge of conditions aboard the vessel at the time of the examination or has made necessary inquiries to justify forming a belief that the examination report is true and correct.

(e) The form of certification required under this subpart is as follows:

I certify that the above is true and complete to the best of my knowledge and belief.

(f) Deficiencies and hazards discovered during an alternative midperiod examination conducted pursuant to this section must be corrected or eliminated, if practical, before the examination report is submitted to the Officer in Charge, Marine Inspection in accordance with paragraph (d)(5) of this section. Deficiencies and hazards that are not corrected or eliminated by the time the examination report is submitted must be listed in the report as "outstanding." Upon receipt of an examination report indicating outstanding deficiencies or hazards, the Officer in Charge, Marine Inspection shall inform the owner or operator of the vessel in writing of the time period specified to correct or eliminate the deficiencies or hazards and the method for establishing that it has been accomplished. Where a deficiency or hazard remains uncorrected or uneliminated after the expiration of the time specified for correction or elimination, the Officer in Charge, Marine Inspection shall initiate appropriate enforcement measures.

(g) Upon receipt of the report required by paragraph (d)(3) of this sec-

tion, the Officer in Charge, Marine Inspection shall evaluate it and make the following determinations:

(1) Whether the alternative midperiod examination is accepted in lieu of the reinspection required by §91.27-1 of this subpart;

(2) Whether the vessel is in satisfactory condition; and

(3) Whether the vessel continues to be reasonably fit for its intended service and route.

The Officer in Charge, Marine Inspection may request any additional information required to make the determinations required by this section. The Officer in Charge, Marine Inspection shall inform the owner/operator in writing of the determinations required by this section.

(h) Should the Officer in Charge, Marine Inspection determine in accordance with paragraph (g) of this section that the alternative midperiod examination is not accepted in lieu of the reinspection required by §91.27-1 of this subpart, the vessel must be reinspected by the cognizant Officer in Charge, Marine Inspection as soon as practical.

[CGD 82-004a, 55 FR 2525, Jan. 25, 1990]

#### §91.27-15 Inspectors 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 seaworthiness of the vessel.

### Subpart 91.30—Inspection After Accident

#### §91.30-1 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 com-

plies in all respects with the regulations in this subchapter.

### Subpart 91.35—Sanitary Inspections

#### §91.35-1 When made.

(a) An inspection of quarters, toilet and washing spaces, serving pantries, galleys, etc., shall be made 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.

### Subpart 91.37—Inspection of Cargo Gear

#### §91.37-1 When made.

(a) The specific tests and examinations shall be made at the intervals stated in the regulations in this subpart.

(b) A thorough examination of the assembled gear shall be made at least once in every year.

(c) An inspection to determine the condition and suitability of shipboard cargo gear will be made by a marine inspector at each inspection for certification. Inspections may be made at such other times as considered necessary by the Officer in Charge, Marine Inspection.

(d) For vessels fitted with cargo gear, an initial test of the assembled units under proof loads shall be conducted, followed by a complete dismantling or disassembling of such gear and a thorough examination of the parts to ascertain its condition. Subsequent tests of the assembled units under proof loads, followed by a dismantling or disassembling of such gear and a thorough examination shall be made once every five years, or oftener if necessary.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGD 87-089, 55 FR 21550, May 25, 1990]

#### §91.37-3 Definitions of terms and words used in this subpart.

(a) *Cargo gear*. The term "cargo gear" includes masts, stays, booms, winches, cranes, elevators, conveyors, standing and running gear forming that part of the shipboard cargo gear used in con-

nection with the loading or unloading of a vessel. This term does not include material handling gear and rigging of special design vessels used solely in dredging, pile driving, drilling for mineral deposits, and construction work.

(b) *Dismantling or disassembling of gear.* The "dismantling" or "disassembling" of gear contemplated is the taking apart of units of gear to the extent necessary to determine the suitability of such gear for continued service and as may be specifically required to carry out the intent of a particular regulation on this subpart. After proof load tests the disassembling need not include the sheaves and pins of the blocks included in the test unless there appears to be evidence of deformation or failure.

(c) *Thorough examination.* The "thorough examination" contemplated is a visual examination, supplemented if necessary by other means such as by a hammer test or by a test with electronic or ultrasonic devices.

(d) *Ton.* The word "ton" means a ton of 2,240 pounds.

(e) *Safe working load.* The "safe working load" (SWL) contemplated is the load the gear is approved to lift, excluding the weight of the gear itself.

#### §91.37-5 Tests and examinations of shipboard cargo gear.

(a) For vessels fitted with cargo gear and without valid cargo gear certificates and registers issued by organizations or associations recognized by the Coast Guard, inspections shall be made by competent persons described in §91.25-25(c) (1) and (2) to determine the condition and suitability of the shipboard cargo gear. For the initial and subsequent fifth year inspections, all the cranes, winches, hoists, derrick booms, derrick and mast bands, and all parts used in loading or unloading cargo shall be assembled in units and such assembled units shall then be tested under proof loads. The proof loads shall be handled for various types of units as required by specific regulations in this subpart. After the proof load tests of the assembled units of gear have been made, such gear shall be disassembled or dismantled so as to permit them to be thoroughly exam-

ined. The sheaves and pins of the blocks included in these proof load tests need not be removed unless there appears to be evidence of deformation or failure.

(b) For vessels fitted with cargo gear and holding valid cargo gear certificates and registers issued by organizations or associations recognized by the Coast Guard, the marine inspectors may accept such certificates as prima facie evidence of compliance with the requirements in this subpart. If an Officer in Charge, Marine Inspection, is in doubt as to the condition and suitability of shipboard cargo gear for such a vessel, the tests and examinations, or such portions thereof as deemed necessary, provided for in this subpart will be required.

(c) If any part or portion of the gear fails or becomes defective during such tests, such defective equipment shall be satisfactorily repaired or replaced.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGD 87-089, 55 FR 21550, May 25, 1990]

#### §91.37-10 Cargo gear of special design and limited use.

(a) The regulations in this subpart shall apply to cargo gear of special design and limited use (derrick barges rigged for heavy lifts, cargo booms on self unloaders, etc.) only to the extent that it is practicable to do so. These requirements may be modified by the Officer in Charge, Marine Inspection, where the inspection is performed according to the design characteristics of such cargo gear.

(b) Nondestructive tests, such as radiography, ultrasonic, electronic or other methods, may be utilized to determine the condition of heavy lift gear after it has been unit tested, provided such methods are acceptable to the Officer in Charge, Marine Inspection, having cognizance of the tests. However, no deviations or modifications shall be permitted to lessen the requirements for cargo gear inspection as set forth in §91.37-70 and the maintenance of the applicable cargo gear records as set forth in §91.37-75.

**§91.37-15 Cargo gear plans required when plans are not approved by a classification society or recognized cargo gear organization.**

(a) For a new vessel or a vessel applying for initial inspection, the following plans of cargo gear shall be submitted in triplicate to the Officer in Charge, Marine Inspection, having jurisdiction for approval:

(1) Plans showing a stress diagram with the principal details of the gear.

(2) Plans containing a diagram showing the arrangement of the assembled gear and indicating the safe working load for each component part.

(b) The safe working load on which the design of any component part of the cargo gear is to be based, shall be taken as the maximum resultant load upon the component part in the design conditions assumed. The safe working load of the assembly is the load the gear is approved to lift, excluding the weight of the gear itself.

(c) One approved copy of each set of cargo gear plans shall be retained on the vessel.

**§91.37-20 Cargo gear plans approved by a classification society.**

(a) The plans required by §91.37-15(a) need not be submitted to the Officer in Charge, Marine Inspection, for approval if such plans are or have been approved by the American Bureau of Shipping or similar classification society recognized by the Commandant.

(b) One approved copy of each set of cargo gear plans shall be retained on the vessel.

**§91.37-23 Cargo gear plans approved by a recognized cargo gear organization.**

(a) The plans required by §91.37-15(a) need not be submitted to the Officer in Charge, Marine Inspection, for approval if such plans are or have been approved by a recognized cargo gear organization listed in paragraph (b) of this section.

(b) The following cargo gear organizations are recognized as having the technical competence to handle the required review of cargo gear plans, including stress and arrangement diagrams, and this recognition will con-

tinue in effect until suspended, canceled, or modified by proper authority:

(1) International Cargo Gear Bureau, Inc., with home office at 17 Battery Place, New York, N.Y. 10004.

(c) One approved copy of each set of cargo gear plans shall be retained on the vessel.

[CGFR 68-105, 33 FR 14703, Oct. 2, 1968, as amended by CGFR 69-116, 35 FR 6861, Apr. 30, 1970]

**§91.37-25 Factors of safety.**

(a) Except as provided in paragraph (b) of this section, in the design of cargo gear, the minimal safety factors in Table 91.37-25(a) must be used to meet the requirements of §91.37-15.

(b) The Commandant may permit the use of safety factors different than those in Table 31.37-25(a) in the design of cargo gear that he considers special.

TABLE 91.37-25(a)

Safe working loads for component parts	Safety factors based on <sup>1</sup> —		
	Ultimate strength	Yield point	Breaking test load
All metal structural parts except steel booms, stayed masts, pins, and connections:			
5 tons or less working load of the assembled gear .....	5.00	<sup>2</sup> 2.75	.....
15 tons working load of the assembled gear .....	4.00	<sup>2</sup> 2.20	.....
60 tons or more working load of the assembled gear .....	3.75	<sup>2</sup> 2.05	.....
Steel booms:			
10 tons or less working load of the assembled gear .....	.....	3.00	.....
13 tons or more working load of the assembled gear .....	.....	2.50	.....
Stayed masts:			
10 tons or less working load of assembled gear .....	5.00	.....	.....
13 tons or more working load of assembled gear .....	4.00	.....	.....
Pins and connections:			
10 tons or less working load .....	.....	<sup>2</sup> 3.00	.....
13 tons or more working load of assembled gear .....	.....	<sup>2</sup> 2.50	.....
Wire rope:			
10 tons or less working load .....	.....	.....	5.00
13 tons or more working load .....	.....	.....	4.00
Fiber rope:			
For running rigging .....	7.00	.....	.....
For fixed gear and vangs .....	5.00	.....	.....
Wooden structural parts .....	8.00	.....	.....
Chains .....	4.50	.....	.....

<sup>1</sup> Intermediate values of safety factors may be used.

<sup>2</sup> The minimum yield point for design purposes shall not be considered greater than 72 percent of the minimum ultimate strength of the steel.

[CGD 72-150R, 37 FR 20826, Oct. 4, 1972]

§91.37-30 Loose gear certificates and tests.

(a) (1) Evidence of compliance with the proof load test requirements in this section for all chains, rings, hooks, links, shackles, swivels, blocks, and any other loose gear whether accessory to a machine or not, but which is used as ship's cargo gear shall be listed on an appropriate certificate.

(2) This evidence of test and the recording thereof is required only once with respect to each article of gear so long as each article is identified and the certificates required are available on the vessel.

(3) Proof loads applied to the articles of loose gear shall be as shown in Table 91.37-30(a)(3).

(b) All chains, rings, hooks, links, shackles, swivels, blocks and any other loose gear whether accessory to a machine or not, but which is used or intended for use as ship's cargo gear, shall bear a mark or number by which each piece can be identified and shall be listed on a loose gear certificate. The safe working load "SWL" shall be marked on all blocks.

(c) The certificate shall show the distinguishing number or mark applied to the articles of gear; a description of the articles of gear; the date when the test proof load was applied; and the safe working load. The forms for loose gear certificates shall be as prescribed by and acceptable to associations or organizations approved by the Commandant and shall be suitable for the purposes of this section.

(d) After being tested all of the gear shall be examined to ascertain whether any part has been damaged, permanently deformed by the test or has other visible defects. The pins and sheaves of all tested blocks shall be removed for this purpose. If damaged during these tests, such gear shall be satisfactorily repaired or replaced.

(e) The required examinations as set forth in paragraph (d) of this section may be accomplished by mechanical, electrical or other means provided the method employed is equal in efficiency to the visual examination of disassembled gear.

TABLE 91.37-30(a)(3)

Articles of gear	Proof load
Chains, rings, hooks, links, shackles, swivels.	Twice the safe working load.
Single sheave block .....	Four times the safe working load. <sup>1</sup>
Multiple sheave block with safe working load up to and including 20 tons.	Twice the safe working load.
Multiple sheave block with safe working load over 20 tons up to and including 40 tons.	20 tons in excess of the safe working load.
Multiple sheave block over 40 tons	One and a half times the safe working load.
Roller chains (pitched chains) used with hand operated chain falls, and rings, hooks, shackles, or swivels permanently attached thereto.	One and a half times the safe working load.
Chain fall blocks, used with roller chains (pitched chains), and rings, hooks, shackles, or swivels permanently attached thereto.	Do.

<sup>1</sup> The proof load applied to the block is equivalent to twice the maximum resultant load on the eye or pin when lifting the safe working load attached to a rope which passes around the sheave of the block. The proof load is, therefore, equal to four times the safe working load or twice the safe working load when the load is attached directly to the block instead of a rope passing around the sheave.

§91.37-35 Test and certification of wire rope.

(a) All wire rope used as shipboard cargo gear shall be able to withstand a breaking test load of at least five times the safe working load. In the case of gear with a lifting capacity of over 10 tons, the breaking test load of wire rope shall be at least four times the safe working load. All wire rope shall be identified and described in a wire rope certificate. Such certificate shall be furnished and attested to by the manufacturer or a testing agency and shall certify:

(1) The breaking test load of a sample of the wire rope, which should be at least five times the safe working load or at least four times the safe working load if part of gear with a lifting capacity of over 10 tons;

(2) The name and address of the manufacturer;

(3) The diameter of the rope in inches and/or fractions thereof;

(4) The number of strands and the number of wires in each strand;

(5) The quality of the wire (e.g., improved plow steel);

(6) The date of the test; and,

(7) The load at which the sample broke.

(b) The forms for the wire rope certificates shall be presented by and acceptable to associations or organizations approved by the Commandant and shall be suitable for the purposes described in this section.

(c) In addition to the manufacturers' or testing agencies' attestations, a sample of the wire rope may be tested to destruction if required by the marine inspector when a visual inspection indicates an apparent defective condition.

**§91.37-40 Proof test of cargo gear as a unit.**

(a) Winches with their accessory gear, including the derricks and attachments, at least once in each five years, shall be tested as a unit with proof loads exceeding the safe working load as set forth in Table 91.37-40(a).

TABLE 91.37-40(a).

Safe working load of assembled gear	Proof load
Not exceeding 20 tons .....	25 percent in excess.
Over 20 tons but not exceeding 50 tons.	5 tons in excess.
Over 50 tons .....	10 percent in excess.

(b) The proof load applied to winches and their gear shall be lifted with the ship's normal tackle including the winches and with the boom at an angle which should not be greater than 15 degrees to the horizontal or to the lowest angle approved in association with the design, or when these angles are impracticable to the lowest practicable angle. When the load has been lifted, it shall be swung as far as possible in both directions.

(1) Where electrical winches are fitted with electromagnetic or hydraulic brakes at the winch, mechanical brakes for manual operation will not be required, but if so fitted shall be in satisfactory operating condition.

(2) Current for electric winch operation during the test shall be taken from the ship's circuits. Shore current may be used if it passes through the ship's switchboard.

(c) Cranes and other hoisting machines with their accessory gear, at least once in each five years, shall be tested with a proof load which shall ex-

ceed the safe working load as set forth in Table 91.37-40(a).

(d) The proof load applied to cranes and hoists shall be lifted, topped and swung (slewed) as far as possible in each direction. If the boom of the crane has a movable radius, it shall be tested with a proof load as set forth in this section at the maximum and minimum radii of the boom. In the case of hydraulic cranes whose capacity is limited by pressure, and with which it is not possible to lift a load 25 percent in excess of the safe working load, the greatest possible load in excess of the safe working load shall be used. These tests and the amounts of the loads shall be recorded.

(e) After satisfactory completion of the proof load testing of the cargo gear in accordance with paragraphs (a), (b), (c) and (d) of this section, the cargo gear and all component parts shall be given a thorough visual examination, supplemented as necessary by other means such as a hammer test or with electronic or ultrasonic devices, to determine if any of the parts were damaged, deformed, or otherwise rendered unsafe for further use. If found defective, such gear shall be replaced.

(1) When the test is being conducted for the first time on a vessel, accessory gear shall be dismantled or disassembled for examination after the test. The sheaves and pins of the blocks included in this test need not be removed unless there appears to be evidence of deformation or failure.

(2) For subsequent tests such parts of the machinery and gear shall be dismantled and/or disassembled after the test as necessary to determine its suitability for continued service.

(f) Appropriate means shall be provided to prevent the foot of the boom from being accidentally lifted from the socket during the test.

(g) Vessels whose cargo gear has been in use but are without the valid registers and certificates described in §91.25-25 shall be inspected for defective cargo gear. The gear shall then be tested and examined as prescribed in this section. If the movable weights for proof testing are not reasonably available, a spring or hydraulic scale certified for accuracy may be used. Whenever such scales are used, the proof

load shall be applied with the boom swung out as far as possible in one direction and then in the other direction and at such intermediate positions as may be indicated. At any position, the indicator of the scale must maintain a constant reading under the proof load for a period of five minutes.

(h) On all types of winches and cranes efficient means shall be provided to stop and hold the proof load in any position, and the efficiency of such means shall be demonstrated.

(1) Electric winches, electrohydraulic winches fitted with electromagnetic or hydraulic brakes at the winch, or cranes shall be equipped so that a failure of the electric power shall stop the motion and set the brakes without any action on the part of the operator.

(2) Current for electric winches and crane operation during the tests shall be taken from the ship's circuits. Shore current may be used if it passes through the ship's switchboard.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGD 87-089, 55 FR 21550, May 25, 1990]

#### §91.37-45 Marking of booms and cranes.

(a) The safe working load (abbreviated "SWL") for the assembled gear shall be marked on the heel of each boom with the minimum angle to the horizontal for which the gear is designed. These letters and figures shall be in contrasting colors to the background and at least one inch in height.

(b) Where the boom is rated at varying capacities depending on the radius, tables, indicating the maximum safe working loads for the various working angles of the boom and the maximum and minimum radii at which the boom may be safely used shall be conspicuously posted near the controls and visible to the operator when working the gear.

#### §91.37-50 Use of wire rope and chains.

(a) An eye splice made in any wire rope used as cargo gear, with or without a thimble, shall be at least three tucks with whole strands and two tucks with one half the wire cut from the tucking stand: *Provided*, That this requirement shall not preclude the use of any other form of splice or connec-

tion if it is as efficient as the splice specified.

(b) Single wire rope cargo falls, wire rope pendants, topping lifts and preventers shall consist of clear lengths without splices except at the working ends. Wire rope clips shall not be used to form eyes in the working ends of single wire rope cargo falls.

(c) Wire rope shall not be used for shipboard cargo gear if in any length of 8 diameters, the number of visible broken wires exceeds ten percent of the total number of wires in the rope, or if the rope shows other signs of excessive wear, corrosion, kinking, or defect.

(d) Hoisting or sling chains used for shipboard cargo gear shall not be used if a length of chain has been stretched more than five percent of the original length, or the chain has become unsafe through over loading or faulty heat-treatment, or whenever other external defects are evident.

(e) Chains used for shipboard cargo gear shall not be shortened by knotting, bolting, or wiring the links. The use of chains having a knot or kink as shipboard cargo gear is prohibited.

#### §91.37-55 Annealing.

(a) Chains, hooks, rings, links, shackles, and swivels of wrought iron used as cargo gear shall be annealed at the following intervals:

(1) Wrought iron chains and gear in general use and of one-half inch or less, at least once in every six months.

(2) All other wrought iron chains and gear, including topping lift chains, in general use, at least once in every twelve months.

(b) The annealing shall be done in a suitable closed oven and not over an open fire. Wrought iron shall be annealed at a temperature of between 1100° and 1200° Fahrenheit for a period of between 30 and 60 minutes. After being annealed, the article shall be allowed to cool slowly and shall be then tested completely for defects.

(c) The heat-treatment of the cargo gear shall be done only by reputable firms having suitable equipment and personnel trained for this purpose. A certificate attesting to the annealing of all gear heat-treated shall be furnished to the vessel.

(d) The heat-treatment of chains, hooks, rings, links, shackles, and swivels of materials other than wrought iron used as cargo gear, if required, shall be effected in accordance with the manufacturer's instructions.

**§91.37-60 Additions to gear.**

(a) When articles of loose gear and/or wire rope conforming with the requirements in this subpart are added to installed gear, or used as replacements in such gear from time to time, a record shall be maintained on the vessel which shall identify each article and the certificate accompanying it.

**§91.37-65 Alterations, renewals, or repairs of cargo gear.**

(a) Whenever important repairs, renewals, or alterations are indicated or intended for the masts, booms, and permanent fittings of the cargo gear, such repairs, renewals, or alterations shall be undertaken only after compliance with the applicable provisions of §91.45-1.

(b) Tests and examinations of the repairs, renewals, or alterations shall be in accordance with the provisions of §91.37-40.

(c) When welding is used to lengthen, alter, or repair chains, rings, hooks, links, shackles, or swivels, they shall be properly heat-treated and shall before being again put into use, be tested and examined in accordance with the provisions of §91.37-30.

**§91.37-70 Responsibility of ship's officer for inspection of cargo gear.**

(a) All wire rope, chains other than bridle chains attached to booms or masts, and all rings, hooks, links, shackles, swivels and blocks used in loading or unloading shall be visually inspected by a ship's officer designated for that purpose by the master.

(b) These inspections by a ship's officer shall be made at frequent intervals, and in any event not less than once in each month.

(c) Immediately after such an inspection by a ship's officer notations of such an inspection shall be made in record form which shall be in or kept with the cargo gear register if carried. In addition, the same notations of inspections together with the date shall

be entered in the Official Logbook for those vessels required to carry this record, or such information shall be kept with the log records maintained on vessels not required to carry the Official Logbook. (See §91.37-75 for entries required to be kept.)

**§91.37-75 Records regarding cargo gear.**

(a) The cargo gear records described in this subpart shall be maintained on the vessel and shall be made available to Coast Guard officials upon request. These records shall be kept for the periods of time they are valid and, in addition, until the next Coast Guard inspection for certification of the vessel. The certificates of manufacturers and/or testing laboratories, companies, or organizations shall be maintained on the vessel so long as the gear described in such certificates is on board the vessel.

(b) The records of all the inspections of cargo gear made by the ship's officers in accordance with §91.37-70 shall be maintained on the vessel for periods of time which agree with those periods as covered by the current Coast Guard certificate of inspection issued to the vessel. These records show the dates of inspections, identify articles inspected, the conditions observed, and the name of the officer performing the inspection.

(c) The records of all tests and examinations conducted by or under the supervision of surveyors of the organizations or associations approved by the Commandant shall be maintained on the vessel.

(d) The Coast Guard will not issue cargo gear certificates and/or registers. The Coast Guard's records of inspections, tests, and examinations of a particular vessel's cargo gear made by a marine inspector or conducted under the supervision of the Coast Guard will be maintained in the office of the Officer in Charge, Marine Inspection, having jurisdiction over the vessel at the time such work was performed. The original certificates or certified copies of certificates of manufacturers and/or testing laboratories, companies, or organizations for loose cargo gear, wire rope, or the annealing of gear shall be maintained on the vessel.



**§91.37-80 Advance notice that cargo gear testing is desired.**

(a) The owner, agent, or master of a vessel shall give an advance notice when it is desired that the tests and examinations of cargo gear be made by or under the supervision of the marine inspector. This advance notice shall be given to the Officer in Charge, Marine Inspection, in whose marine inspection zone the vessel is available for such inspection and examination.

(b) For the initial inspection and examination of cargo gear by the Coast Guard, the advance notice shall be to the cognizant Officer in Charge, Marine Inspection, as early as possible and shall include sketches and/or drawings showing each unit of cargo gear, the identification of component parts and the safe working loads. Copies of original certificates of manufacturers and/or testing laboratories, companies, or organizations maintained on the vessel may be accepted by the cognizant Officer in Charge, Marine Inspection, when satisfied such certificates properly describe the qualities of the component parts of the gear in question.

**§91.37-85 Responsibility for conducting required tests and examinations.**

(a) The vessel's owners and/or operators shall furnish and pay the expenses required in conducting the tests and examinations prescribed by the regulations in this subpart, including the supplying of all instruments, other equipment, and personnel including personnel supervision for performance of all work required.

(b) The Coast Guard's participation in these required tests and examinations shall be confined to witnessing required tests and examinations with the view to determining whether or not the gear is satisfactory for the purpose intended. In the event it is determined that the gear is defective or unable to meet the standards set forth in this subpart such gear, or portions thereof, shall be replaced to the satisfaction of the Officer in Charge, Marine Inspection, having jurisdiction over the vessel.

**Subpart 91.40—Drydocking**

**§91.40-1 Definitions relating to hull examinations.**

As used in this part—

(a) *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, sea chests, sea valves, sea strainers, and valves for the emergency bilge suction.

(b) *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 or fuel oil tanks.

(c) *Cargo tank internal examination* means an examination of the vessel while afloat or in drydock and consists of an examination of the internals of all cargo tanks; except, if the vessel is certificated to carry cargoes regulated under part 38 or subchapter O of this chapter, the cargo tank internal examination must be accomplished as specified in parts 38 and 151 of this chapter respectively.

(d) *Underwater survey* means the examination, while the vessel is afloat, of all accessible parts of the vessel's underwater body and all through-hull fittings, sea chests, sea valves, sea strainers, and valves for the emergency bilge suction.

[CGD 84-024, 52 FR 39653, Oct. 23, 1987, as amended by CGD 84-024, 53 FR 32231, Aug. 24, 1988]

**§91.40-3 Drydock examination, internal structural examination, cargo tank internal examination, and underwater survey intervals.**

(a) Except as provided in paragraphs (b) through (g) of this section, each vessel must undergo drydock, internal structural, and cargo tank internal examinations as follows:

(1) Except under paragraph (a)(2) of this section, vessels that operate in salt water must be examined in accordance with the intervals set forth in Table 91.40-3(a) of this section. Where Table 91.40-3(a) indicates a 2.5 year examination interval, it means a vessel

must undergo two examinations within any five year period. No more than three years may elapse between any two examinations.

TABLE 91.40-3(a).—SALT WATER SERVICE VESSELS EXAMINATION INTERVALS IN YEARS

	Single hull ship and barge	Double hull barge with internal framing	Double hull barge with external framing <sup>2</sup>	Single hull barge with independent tanks <sup>3</sup>	Wood hull ship and barge	Unmanned deck cargo barge	Unmanned double hull freight barge <sup>5</sup>
Drydock .....	2.5	5.0	5.0	5.0	2.5	5.0	5.0
Internal structural .....	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Cargo tank internal .....	2.5	5.0	10.0	10.0	2.5	2.5	5.0

Note:

- <sup>1</sup> Applicable to double hull tank barges (double sides, ends, and bottoms) when the structural framing is on the internal tank surface.
- <sup>2</sup> Applicable to double hull tank barges (double sides, ends, and bottoms) when the structural framing is on the external tank surface accessible for examination from voids, double bottoms, and other similar spaces.
- <sup>3</sup> Applicable to single hull tank barges with independent cargo tanks which have a cargo containment envelope that is not a contiguous part of the hull structure and which has adequate clearance between the tanks and between the tanks and the vessel's hull to provide access for examination of all tank surfaces and the hull structure.
- <sup>4</sup> Applicable to unmanned/non-permissively manned deck cargo barge which carries cargo only above the weather deck and which provides complete access for examination of the inside of the hull structure.
- <sup>5</sup> Applicable to unmanned/non-permissively manned double hull freight barges (double sides, ends, and bottoms) the arrangement of which provides access for a complete internal structural examination as defined in §91.40-1(b) without the necessity of entering cargo tanks or holds.
- <sup>6</sup> Or as specified in Part 151.

(2) Vessels that operate in fresh water at least six months in every 12 month period since the last drydock examination must be examined in accordance with the intervals set forth in Table 91.40-3(b) of this section. Where

Table 91.40-3(b) indicates a 2.5 year examination interval, it means a vessel must undergo two examinations within any five year period. No more than three years may elapse between any two examinations.

TABLE 91.40-3(b).—FRESH WATER SERVICE VESSELS EXAMINATION INTERVALS IN YEARS

	Single hull ship and barge	Double hull barge with internal framing <sup>1</sup>	Double hull barge with external framing <sup>2</sup>	Single hull barge with independent tanks <sup>3</sup>	Wood hull ship and barge	Unmanned deck cargo barge <sup>4</sup>	Unmanned double hull freight barge <sup>5</sup>
Drydock .....	5.0	10.0	10.0	10.0	2.5	10.0	10.0
Internal structural .....	5.0	5.0	5.0	5.0	2.5	5.0	5.0
Cargo tank internal .....	5.0	5.0	10.0	10.0	2.5	5.0	5.0

Notes:

- <sup>1</sup> Applicable to double hull tank barges (double sides, ends, and bottoms) when the structural framing is on the internal tank surface.
- <sup>2</sup> Applicable to double hull tank barges (double sides, ends, and bottoms) when the structural framing is on the external tank surface accessible for examination from voids, double bottoms, and other similar spaces.
- <sup>3</sup> Applicable to single hull tank barges with independent cargo tanks which have a cargo containment envelope that is not a contiguous part of the hull structure and which has adequate clearance between the tanks and between the tanks and the vessel's hull to provide access for examination of all tank surfaces and the hull structure.
- <sup>4</sup> Applicable to unmanned/non-permissively manned deck cargo barge which carries cargo only above the weather deck and which provides complete access for examination of the inside of the hull structure.
- <sup>5</sup> Applicable to unmanned/non-permissively manned double hull freight barges (double sides, ends, and bottoms) the arrangement of which provides access for a complete internal structural examination as defined in § 91.40-1(d) without the necessity of entering cargo tanks or holds.
- <sup>6</sup> Or as specified in Part 151.

(b) During each inspection or reinspection for certification, all wing voids, rakes, cofferdams, and other void spaces on barges must be opened and checked from on-deck for the presence of water or cargo indicating hull damage or cargo tank leakage. If water or cargo is not present, these spaces need not be gas freed, ventilated, cleaned, or otherwise prepared for personnel entry. If water or cargo is present, an internal structural examination may be required.

(c) If, during an internal structural, cargo tank internal examination, or underwater survey, damage or deterioration to the hull plating, structural members, or cargo tanks 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.

(d) Vessels less than 15 years of age (except wooden hull vessels) that are in salt water service with a 2.5 year drydock interval (as indicated in Table 91.40-3(a) of this section) or that are in fresh water service with a five year drydock interval (as indicated in Table 91.40-3(b) of this section) may be considered for an underwater survey instead of alternate drydock examinations, provided the vessel is fitted with an effective hull protection system. Vessel owners or operators must apply to the Officer in Charge, Marine Inspection, for approval of underwater surveys instead of alternate drydock examinations for each vessel. The application must include the following information:

(1) The procedure to be followed in carrying out the underwater survey.

(2) The location where the underwater survey will be accomplished.

(3) The method to be used to accurately determine the diver location relative to the hull.

(4) The means that will be provided for examining sea chests, sea valves, and other through-hull fittings.

(5) The means that will be provided for taking shaft bearing clearances.

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

(7) A description of the hull protection system.

(e) Vessels otherwise qualifying under paragraph (d) of this section, that are 15 years of age or older may be considered for continued participation in the underwater survey program on a case-by-case basis, if—

(1) Before the vessel's next scheduled drydocking, the owner or operator submits a request for continued participation to Commandant (G-MCO);

(2) During the vessel's next drydocking after the request is submitted, no appreciable hull deterioration is indicated as a result of a complete set of hull gaugings; and

(3) The results of the hull gauging and the results of the Coast Guard drydock examination together with the recommendation of the Officer in Charge, Marine Inspection, are submitted to Commandant (G-MCO) for final approval.

(f) Each vessel which has not met with the applicable examination schedules in paragraphs (a) through (e) of this section because it is on a voyage, must undergo the required examinations upon completion of the voyage.

(g) The Commandant (G-MCO) may authorize extensions to the examination intervals specified in paragraph (a) of this section.

[CGD 84-024, 52 FR 39653, Oct. 23, 1987, as amended by CGD 84-024, 53 FR 32231, Aug. 24, 1988; CGD 84-024, 53 FR 34872, Sept. 8, 1988; CGD 95-072, 60 FR 50464, Sept. 29, 1995]

#### §91.40-5 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 examination, cargo tank internal examination, or 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 cargo tank internal examination, or underwater survey or whenever repairs are made to the barge's hull.

[CGD 84-024, 52 FR 39654, Oct. 23, 1987]

**Subpart 91.43—Integral Fuel Oil Tank Examinations**

**§91.43-1 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. 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 but less than 25 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, 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, that the general condition of the tanks is satisfactory.

(f) All double-bottom fuel oil tanks on vessels 25 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 double-bottom fuel oil tank in way of each cargo hold/tank, and by external examination of all other double-bottom fuel oil tanks, that the general condition of the tanks is satisfactory.

[CGD 84-024, 52 FR 39654, Oct. 23, 1987, as amended by CGD 84-024, 53 FR 32232, Aug. 24, 1988]

**Subpart 91.45—Repairs and Alterations**

**§91.45-1 Notice 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.

**§91.45-5 Inspection required.**

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

**Subpart 91.50—Special Operating Requirements**

**§91.50-1 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, pub-

lished by National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02669, 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 liquids or chemicals in bulk; or,

(2) Within spaces adjacent to cargo tanks which have been used to carry Grade D combustible liquid cargo, except where the distance between such cargo tanks and the work to be performed is not less than twenty-five (25) feet; or,

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

(4) To pipelines, heating coils, pumps, fittings, or other appurtenances connected to such cargo or fuel tanks; or,

(5) On miscellaneous vessels such as cable, salvage, pile driving, and oil drilling rig vessels that have been specially authorized to carry Grade B or Grade C flammable liquid cargo in bulk by the Commandant, within or on the boundaries of such cargo tanks or within spaces adjacent to such cargo 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 indicates 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 be-

fore 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.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGD 95-072, 60 FR 50464, Sept. 29, 1995]

## Subpart 91.55—Plan Approval

### §91.55-1 General.

(a) The following list of required plans is general in character, but includes all plans 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 following list of required plans, 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.

**§91.55-5 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.*<sup>1</sup> (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 as required by Subchapter S of this chapter.

(d) *Fire control.* (1) General arrangement plans showing for each deck the control stations, the various fire sections enclosed by fire resisting bulkheads, the arrangement of the alarm and extinguishing systems, the fire extinguishers, means of access to different compartments and decks and the ventilation system including location of ventilation shutdowns, positions of dampers and the numbers identifying each system.

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

(3) Details of alarm systems.

(4) Details of extinguishing systems, including fire mains, carbon dioxide, foam and sprinkling systems.

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

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

(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.

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

(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 §92.03-1 of this subchapter.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGD 79-023, 48 FR 51008, Nov. 4, 1983; CGD 85-099, 55 FR 32248, Aug. 8, 1990; CGD 85-099, 55 FR 40260, Oct. 2, 1990; CGD 88-032, 56 FR 35825, July 29, 1991; 56 FR 46354, Sept. 11, 1991]

**§91.55-10 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 §91.45-1. The gen-

<sup>1</sup>The asterisk (\*) indicates items which may require approval by the American Bureau of Shipping for vessels classed by that society.

eral scope of the plans shall be as noted in §91.55-5.

**§91.55-15 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 the Commandant (G-MTH), U.S. Coast Guard, Washington, DC 20593-0001. 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) The plans may be submitted directly to Commanding Officer, U.S. Coast Guard Marine Safety Center (G-MS-C), 400 Seventh St., SW., Washington, DC 20590-0001.

(4) 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.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGD 78-128, 47 FR 21204, May 17, 1982; CGD 82-063b, 48 FR 4781, Feb. 3, 1983; CGD 88-070, 53 FR 34534, Sept. 7, 1988; CGD 89-025, 54 FR 19571, May 8, 1989]

**§91.55-20 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 required distribution.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGFR 69-116, 35 FR 6861, Apr. 30, 1970]

**Subpart 91.60—Certificates Under International Convention for Safety of Life at Sea, 1974**

**§91.60-1 Application.**

The provisions of this subpart shall apply to all cargo vessels on an international voyage.

[CGD 95-012, 60 FR 48051, Sept. 18, 1995]

**§91.60-5 Cargo Ship Safety Construction Certificate.**

(a) All vessels on an international voyage are required to have a Cargo Ship Safety Construction Certificate. This certificate shall be issued by the U.S. Coast Guard or the American Bureau of Shipping to certain vessels on behalf of the United States of America as provided in Regulation 12, chapter I, of the International Convention for Safety of Life at Sea, 1974.

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

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended at CGD 90-008, 55 FR 30661, July 26, 1990]

**§91.60-10 Cargo Ship Safety Equipment Certificate.**

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

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

**§91.60-15 Cargo Ship Safety Radiotelegraphy Certificate.**

(a) The application for Cargo Ship Safety Radiotelegraphy Certificate is made on FCC Form 801 to the local office of the Federal Communications Commission.

(b) Where applicable, a Cargo Ship Safety Radiotelegraphy Certificate will be issued by the Federal Communications Commission to a vessel meeting its requirements for a vessel fitted with a radiotelegraph installation.

**§ 91.60-20 Cargo Ship Safety Radiotelephony Certificate.**

(a) The application for a Cargo Ship Safety Radiotelephony Certificate is made on FCC Form 801 to the local office of the Federal Communications Commission.

(b) Where applicable, a Cargo Ship Safety Radiotelephony Certificate will be issued by the Federal Communications Commission to a vessel meeting its applicable requirements for a vessel fitted with a radiotelephone installation.

**§ 91.60-25 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 other required certificates.

**§ 91.60-35 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 certificates shall be carried in a manner similar to that described in § 91.01-5 for a certificate of inspection.

**§ 91.60-40 Duration of certificates.**

(a) A Cargo Ship Safety Equipment Certificate shall be issued for a period of not more than 24 months.

(b) A Cargo Ship Safety Construction Certificate shall be issued for a period of not more than 60 months.

(c) A Cargo Ship Safety Radiotelegraphy Certificate and a Cargo Ship Safety Radiotelephony Certificate shall be issued for a period of not more than 12 months.

(d) An Exemption Certificate shall not be valid for longer than the period of the certificate to which it refers.

(e) A Convention 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 16974, Dec. 30, 1965, as amended at CGD 95-012, 60 FR 48051, Sept. 18, 1995]

**§ 91.60-45 American Bureau of Shipping.**

(a) The American Bureau of Shipping, with its home office at 45 Eisenhower Drive, Paramus, NJ 07653-0910, is hereby designated as an organization duly authorized to issue the "Cargo Ship Safety Construction Certificate" to certain cargo ships on behalf of the United States of America as provided in Regulation 12, chapter I, of the International Convention for Safety of Life at Sea, 1974, and Executive Order 12234 and the certificate shall be subject to the requirements in this subpart. The American Bureau of Shipping is authorized to place the official seal of the United States of America on the certificate. This designation and delegation to the American Bureau of Shipping shall be in effect until terminated by proper authority and notice of cancellation is published in the FEDERAL REGISTER.

(b) At the option of the owner or agent of a vessel on an international voyage and on direct application to the American Bureau of Shipping, the Bureau may issue to such vessel a Cargo Ship Safety Construction Certificate, having a period of validity of not more than 60 months after ascertaining that the vessel:

(1) Has met the applicable requirements of the Convention; and,

(2) Is currently classed by the Bureau and classification requirements have been dealt with to the satisfaction of the Bureau.

(c) When the Bureau determines that a vessel to which it has issued a Cargo Ship Safety Construction Certificate no longer complies with the Bureau's applicable requirements for classification, the Bureau shall immediately furnish to the Coast Guard all relevant information, which will be used by the Coast Guard to determine whether or

not to withdraw, revoke or suspend the Cargo Ship Safety Construction Certificate.

[CGFR 65-50, 30 FR 16974, Dec. 30, 1965, as amended by CGD 90-008, 55 FR 30661, July 26, 1990]

## PART 92—CONSTRUCTION AND ARRANGEMENT

### Subpart 92.01—Hull Structure

Sec.

- 92.01-1 Application.
- 92.01-2 Incorporation by reference.
- 92.01-5 Vessels subject to load line.
- 92.01-10 Structural standards.
- 92.01-13 Sliding watertight door assemblies.
- 92.01-15 Special consideration.
- 92.01-90 Vessels contracted for prior to November 19, 1952.

### Subpart 92.03—Navigation Bridge Visibility

- 92.03 Navigation bridge visibility.

### Subpart 92.05—General Fire Protection

- 92.05-1 Fire hazards to be minimized.
- 92.05-5 Woodwork insulated from heated surfaces.
- 92.05-10 Lamp room construction.
- 92.05-15 Segregation of spaces containing the emergency source of electric power.

### Subpart 92.07—Structural Fire Protection

- 92.07-1 Application.
- 92.07-5 Definitions.
- 92.07-10 Construction.
- 92.07-90 Vessels contracted for prior to July 1, 1968.

### Subpart 92.10—Means of Escape

- 92.10-1 Application.
- 92.10-5 Two means required.
- 92.10-10 Location.
- 92.10-15 Vertical ladders not accepted.
- 92.10-20 No means for locking doors.
- 92.10-25 Stairway size.
- 92.10-30 Dead end corridors.
- 92.10-35 Public spaces.
- 92.10-40 Access to lifeboats.
- 92.10-45 Weather deck communications.
- 92.10-90 Vessels contracted for prior to November 19, 1952.

### Subpart 92.15—Ventilation

- 92.15-1 Application.
- 92.15-5 Vessels using fuel having a flashpoint of 110 degrees or lower.
- 92.15-10 Ventilation for closed spaces.
- 92.15-15 Ventilation for crew quarters and, where provided, passenger spaces.

- 92.15-90 Vessels contracted for prior to November 19, 1952.

### Subpart 92.20—Accommodations for Officers and Crew

- 92.20-1 Application.
- 92.20-5 Intent.
- 92.20-10 Location of crew spaces.
- 92.20-15 Construction.
- 92.20-20 Sleeping accommodations.
- 92.20-25 Washrooms and toilet rooms.
- 92.20-30 Messrooms.
- 92.20-35 Hospital space.
- 92.20-40 Other spaces.
- 92.20-45 Lighting.
- 92.20-50 Heating.
- 92.20-55 Insect screens.
- 92.20-90 Vessels contracted for prior to November 19, 1952.

### Subpart 92.25—Rails and Guards

- 92.25-1 Application.
- 92.25-5 Where rails required.
- 92.25-10 Storm rails.
- 92.25-15 Guards in dangerous places.
- 92.25-90 Vessels contracted for prior to July 1, 1969.

AUTHORITY: 46 U.S.C. 3306; 5115; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16983, Dec. 30, 1965, unless otherwise noted.

### Subpart 92.01—Hull Structure

#### §92.01-1 Application.

(a) The provisions of this subpart, with the exception of §92.01-90, 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 §92.01-90.

#### §92.01-2 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 a 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, Design and Engineering Standards Division

(G-MMS), 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)*

1916 Race Street, Philadelphia, PA 19103

ASTM F-1196, Sliding Watertight Door Assemblies, 1989 .....	92.01-13
ASTM F-1197, Sliding Watertight Door Control Systems, 1989 .....	92.01-13

[CGD 88-032, 56 FR 35825, July 29, 1991, as amended by CGD 95-072, 60 FR 50464, Sept. 29, 1995]

**§92.01-5 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.

**§92.01-10 Structural standards.**

(a) In general, compliance with the standards established by the American Bureau of Shipping, see subpart 90.35 of this subchapter, will be considered as 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.

**§92.01-13 Sliding watertight door assemblies.**

(a) Sliding watertight door assemblies, where fitted, must—

(1) Be designed, constructed, built, tested, and marked in accordance with ASTM F-1196;

(2) Have controls in accordance with ASTM F-1197; and

(3) If installed in a subdivision bulkhead, meet Supplemental Requirements S1 and S3 of ASTM F-1196, unless the watertight door assemblies are built in accordance with plans previously approved by the Coast Guard, in which case, only Supplemental Requirements Nos. S1 and S3.1.4 of ASTM F-1196 must be met. In either case, the operating systems must have power

supplies, power sources, installation tests and inspection, and additional remote operating consoles in accordance with Supplemental Requirements Nos. S1 through S4 of ASTM F-1197.

(b) Installation of watertight door assemblies must be in accordance with the following.

(1) Before a sliding watertight door assembly is installed in a vessel, the bulkhead in the vicinity of the door opening must be stiffened. Such bulkhead stiffeners, or deck reinforcement where flush deck door openings are desired, must not be less than 6 inches nor more than 12 inches from the door frame so that an unstiffened diaphragm of bulkhead plating 6 to 12 inches wide is provided completely around the door frame. Where such limits cannot be maintained, alternative installations may be submitted for consideration by the Commanding Officer, Marine Safety Center, 400 7th Street SW., Washington, DC 20590-0001. In determining the scantlings of these bulkhead stiffeners, the door frame should not be considered as contributing to the strength of the bulkhead. Provision must also be made to adequately support the thrust bearings and other equipment that may be mounted on the bulkhead or deck.

(2) Sliding watertight door frames may be either bolted or welded watertight to the bulkhead.

(i) If bolted, a suitable thin heat and fire resistant gasket or suitable compound must be used between the bulkhead and the frame for watertightness. The bulkhead plating must be worked to a plane surface in way of the frame when mounting.

(ii) If welded, caution must be exercised in the welding process so that the door frame is not distorted.

[CGD 88-032, 56 FR 35825, July 29, 1991]

**§92.01-15 Special consideration.**

(a) Special consideration will be given to the structural requirements for small vessels or vessels of an unusual design not contemplated by the rules of the American Bureau of Shipping.

**§ 92.01-90 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.

**Subpart 92.03—Navigation Bridge Visibility****§ 92.03-1 Navigation bridge visibility.**

Each cargo and miscellaneous 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 (1,640 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 32248, Aug. 8, 1990]

**Subpart 92.05—General Fire Protection****§ 92.05-1 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.

**§ 92.05-5 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.

**§ 92.05-10 Lamp room construction.**

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

**§ 92.05-15 Segregation of spaces containing the emergency source of electric power.**

(a) The provisions of this section shall apply to all vessels contracted for on or after October 1, 1958.

(b) When a compartment containing the emergency source of electric power, or vital components thereof, ad-

joins a space containing either the ship's service generators or machinery necessary for the operation of the ship's service generators, all common bulkheads and/or decks shall be protected by approved "structural insulation" or other approved material. This protection shall be such as to be capable of preventing an excessive temperature rise in the space containing the emergency source of electric power, or vital components thereof, for a period of at least one hour in the event of fire in the adjoining space. Bulkheads or decks meeting Class A-60 requirements, as defined by §72.05-10 of Subchapter H (Passenger Vessels) of this chapter, will be considered as meeting the requirements of this paragraph.

**Subpart 92.07—Structural Fire Protection**

**§92.07-1 Application.**

(a) The provisions of this subpart, with the exception of §92.07-90, shall apply to all vessels of 4,000 gross tons and over contracted for on or after January 1, 1962. Such vessels contracted for prior to January 1, 1962, shall meet the requirements of §92.07-90(a).

(b) The provisions of this subpart, with the exception of §92.07-90, shall apply to all industrial vessels of 300 gross tons and over but less than 4,000 gross tons, contracted for on or after July 1, 1968, which carry in excess of 12 industrial personnel. Such vessels contracted for prior to July 1, 1968, shall meet the requirements of §92.07-90(b).

[CGFR 87-90, 33 FR 1015, Jan. 26, 1968]

**§92.07-5 Definitions.**

(a) *Standard fire test.* 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.

(b) "*A*" Class divisions. 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 bulk-

heads, and decks. They shall be so constructed, that if subjected to the standard fire test, they would be capable of preventing the passage of flame and smoke for one hour.

(c) "*B*" Class bulkheads. Bulkheads of the "B" Class shall be constructed with approved incombustible materials and made intact from deck to deck 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 one half hour.

(d) "*C*" Class divisions. Bulkheads or decks of the "C" Class shall be constructed of approved incombustible materials, but need meet no requirements relative to the passage of flame.

(e) *Steel or other equivalent metal.* Where the term "steel or other equivalent metal" is used in this subpart, 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.

(f) *Approved material.* Where in this subpart approved materials are required, they refer to materials approved under the applicable subparts of Subchapter Q (Specifications) of this chapter, as follows:

Deck Coverings .....	164.008
Structural Insulations .....	164.007
Bulkhead Panels .....	164.008
Incombustible Materials .....	164.009
Interior Finishes .....	164.012

(g) *Stairtower.* A stairtower is a stairway which penetrates more than a single deck within the same enclosure.

[CGFR 65-60, 30 FR 16983, Dec. 30, 1966, as amended by CGFR 67-90, 33 FR 1015, Jan. 26, 1968; CGD 75-032, 41 FR 17910, Apr. 29, 1976]

**§92.07-10 Construction.**

(a) The hull, superstructure, structural bulkheads, decks, and deckhouses shall be constructed of steel. Alternatively, the Commandant may permit the use of other suitable material in special cases, having in mind the risk of fire.

(b) Bulkheads of galleys, paint and lamp lockers, and emergency generator rooms shall be of "A" Class construction.

(c) The boundary bulkheads and decks separating the accommodations and control stations from cargo and machinery spaces, galleys, main pantries and storerooms, other than small service lockers, shall be of "A" Class construction.

(d) Within the accommodation and service areas the following conditions shall apply:

(1) Corridor bulkheads in accommodation spaces shall be of the "A" or "B" Class intact from deck to deck. Stateroom doors in such bulkheads may have a louver in the lower half.

(2) Stairtowers, elevator, dumbwaiter, and other trunks shall be of "A" Class construction.

(3) Bulkheads not already specified to be of "A" or "B" Class construction may be of "A", "B", or "C" Class construction.

(4) The integrity of any deck in way of a stairway opening, other than a stairtower, shall be maintained by means of "A" or "B" class bulkheads and doors at one level. The integrity of a stairtower shall be maintained by "A" Class doors at every level. The doors shall be of self-closing type. Holdback hooks, or other means of permanently holding the door open will not be permitted. However, magnetic holdbacks operated from the bridge or from other suitable remote control positions are acceptable.

(5) Interior stairs, including stringers and treads, shall be of steel.

(6) Except for washrooms and toilet spaces, deck coverings within accommodation spaces shall be of an approved type. However, overlays for leveling or finishing purposes which do not meet the requirements for an approved deck covering may be used in thicknesses not exceeding  $\frac{3}{8}$  of an inch.

(7) Ceilings, linings, and insulation, including pipe and duct laggings, shall be of approved incombustible materials.

(8) Any sheathing, furring or holding pieces incidental to the securing of any bulkhead, ceiling, lining, or insulation shall be of approved incombustible materials.

(9) Bulkheads, linings, and ceilings may have a combustible veneer within a room not to exceed  $\frac{3}{8}$  of an inch in thickness. However, combustible ve-

neers, trim, decorations, etc., shall not be used in corridors or hidden spaces. This is not intended to preclude the use of an approved interior finish or a reasonable number of coat of paint.

(e) Wood hatch covers may be used between cargo spaces or between stores spaces. Hatch covers in other locations shall be of steel or equivalent metal construction. Tonnage openings shall be closed by means of steel plates.

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

(g) The provisions of paragraph (d) (1) through (9) of this section apply to control spaces on vessels whose initial Application for Inspection is submitted to an Officer in Charge, Marine Inspection on or after June 15, 1987.

[CGFR 65-50, 30 FR 16983, Dec. 30, 1965, as amended by CGFR 67-80, 33 FR 1015, Jan. 26, 1968; CGD 84-073, 52 FR 18364, May 15, 1987; 52 FR 22751, June 15, 1987]

**§ 92.07-90 Vessels contracted for prior to July 1, 1968.**

(a) For all vessels of 4,000 gross tons and over contracted for prior to January 1, 1962, existing structure arrangements and materials 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 standard as the original construction. Major alterations and conversions shall be in compliance with the provisions of this subpart to the satisfaction of the Officer in Charge, Marine Inspection.

(b) For industrial vessels of 300 gross tons and over but less than 4,000 gross tons, contracted for prior to July 1, 1968, which carry in excess of 12 industrial personnel, existing structure arrangements and materials 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 standard as the original construction. Major alterations and conversions shall be in compliance with this subpart to the satis-



fraction of the Officer in Charge, Marine Inspection.

[CGFR 67-90, 33 FR 1016, Jan. 26, 1968]

## Subpart 92.10—Means of Escape

### §92.10-1 Application.

(a) The provisions of this subpart, with the exception of §92.10-90, 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 §92.10-90.

### §92.10-5 Two means required.

(a) There shall be at least two means of escape from all general areas accessible to the passengers, if carried, 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.

### §92.10-10 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.

### §92.10-15 Vertical ladders not accepted.

(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.

### §92.10-20 No means for locking doors.

(a) No means shall be provided for locking doors giving access to either of the two 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 deck-houses where such doors are locked by key only and such key is under the control of one of the vessel's officers.

### §92.10-25 Stairway size.

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

(b) Vessels contracted for on or after January 1, 1959, shall meet the requirements of this paragraph. Special consideration for relief may be given in the case of small vessels if it is shown to be unreasonable or impracticable to meet the requirements.

(1) All interior stairways, other than those within the machinery spaces or cargo holds, shall have a minimum width of 28 inches. The angle of inclination with the horizontal of such stairways shall not exceed 60 degrees.

### §92.10-30 Dead end corridors.

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

### §92.10-35 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.

### §92.10-40 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.

### §92.10-45 Weather deck communications.

(a) Vertical communication shall be provided between the various weather decks by means of permanent inclined ladders.

### §92.10-90 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 §§92.10-5 through 92.10-

45 be permitted than presently exists. Nothing in this paragraph shall be construed as exempting any vessel from having 2 means of escape from all main compartments which are accessible to the passengers, if carried, or where the crew are normally quartered or employed.

## Subpart 92.15—Ventilation

### §92.15-1 Application.

The provisions of this subpart, with the exception of §92.15-90, 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 §92.15-90.

### §92.15-5 Vessels using fuel having a flashpoint of 110 degrees 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 ventilation as required by this section.

(1) At least 2 ventilators fitted with cowls or their equivalent for the purpose of properly and effectively ventilating the bilges of every engine and fuel-tank compartment in order to remove any flammable or explosive gases.

(2) Vessels constructed so that the greater portions of the bilges under the engine and fuel tanks are open or exposed to the natural atmosphere at all times are not required to be fitted with ventilators.

### §92.15-10 Ventilation for closed spaces.

(a) Except as noted in paragraph (c) of this section, 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) On unmanned cargo barges not fitted with a fixed bilge system, vents and ventilators may be omitted from void spaces.

(d) 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 97.80 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 system shall be such as to prevent air stratification as well as to prevent the 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.

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

[CGFR 65-50, 30 FR 16983, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15284, Dec. 5, 1966]

### §92.15-15 Ventilation for crew quarters and, where provided, passenger spaces.

(a) All living 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.

**§92.15-90 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 §§92.15-5 through 92.15-15 be permitted than presently exists.

**Subpart 92.20—Accommodations for Officers and Crew**

**§92.20-1 Application.**

(a) The provisions of this subpart, with the exception of §92.20-90, shall apply to all vessels of 100 gross tons and over contracted for on or after November 19, 1952. Vessels of 100 gross tons and over contracted for prior to November 19, 1952, shall meet the requirements of §92.20-90.

(b) Vessels of less than 100 gross tons shall meet the applicable requirements of this subpart insofar as is reasonable and practicable.

**§92.20-5 Intent.**

(a) It is the intent of this subpart that the accommodations provided for officers and crew on all vessels shall be securely constructed, properly lighted, heated, drained, ventilated, equipped, located, arranged, and, where practicable, shall be insulated from undue noise and effluvia.

(b) The crew referred to herein includes all persons, except the licensed officers, regularly employed on board any vessel. Where the requirements for the accommodation of licensed officers are not otherwise specified, they shall be of at least equivalent to that indicated herein for the crew.

(c) For the purpose of this subpart, the term "crew spaces" shall include sleeping rooms, messrooms, recreational rooms, toilet and shower spaces, etc., which are intended for the exclusive use of the crew.

**§92.20-10 Location of crew spaces.**

(a) Crew spaces shall be located, where practicable, so that the maxi-

mum amount of fresh air and light are obtainable, having due regard to the service of the vessel and the requirements of other space users.

(b) Crew quarters shall not be located farther forward in a 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 waterline. However, for vessels in other than ocean or coastwise service, this distance need not exceed 28 feet. For the purpose of this paragraph, the length shall be as defined in §42.13-15 of subchapter E (Load Lines) of this chapter. No section of the deck of the crew spaces shall be below the deepest load line, except that in special cases, the Commandant may approve such an arrangement: *Provided*, That in no case shall the deck head of the crew space be below the deepest load line.

(c) Hawse pipes or chain pipes shall not pass through crew spaces.

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

(e) There shall be no access, vents, or sounding tubes from fuel or cargo oil tanks opening into crew spaces, except that sounding tubes and access openings may be located in corridors.

(f) Where practicable, crew spaces shall be located entirely separate and independent of spaces allotted to passengers or licensed officers.

[CGFR 65-50, 30 FR 16983, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17484, Oct. 29, 1969]

**§92.20-15 Construction.**

(a) All crew spaces are to be constructed in a manner suitable to the purpose for which they are intended. The bulkheads separating the crew space from cargo and machinery spaces, lamp and paint rooms, storerooms, drying rooms, washrooms, and toilet spaces shall be made odorproof where deemed necessary by the Commandant.

(b) Toilet spaces, except when provided as private or semiprivate facilities, shall be so built, fitted, and situated, that no odor from them will readily enter other crew spaces.

(c) Where shall or unsheathed weather decks form boundaries of crew spaces, suitable protective coverings shall be applied to prevent formation or accumulation of moisture.

(d) Where crew spaces adjoin or are immediately above spaces such as galleys machinery spaces or casings, donkey boilerrooms, etc., they shall be suitably protected from the heat.

(e) The interior sides and deckheads of crew spaces shall be covered with enamel, paint, or other material light in color.

(f) Crew spaces shall be properly drained where considered necessary.

(g) All washrooms and toilet rooms shall be properly drained and so constructed and arranged that they can be kept in a clean, workable, and sanitary condition. The scuppers shall be located in the lowest part of the space, due consideration being given to the average trim of the vessel.

#### § 92.20-20 Sleeping accommodations.

(a) *Arrangements.* (1) Separate sleeping accommodations are to be provided for the deck, engine, and steward groups of the crew.

(2) Each watch of seamen, firemen or similar ratings on duty in watches is to be provided with separate sleeping room or rooms, unless the total space for accommodations makes this impracticable.

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

(b) *Size.* (1) Sleeping accommodations for the crew shall be divided into rooms, no one of which shall berth more than four persons.

(2) Each room shall be of such size that there are at least 30 square feet of deck area and a volume of at least 210 cubic feet for each person accommodated. The clear headroom shall be not less than 6 feet 3 inches. In measuring sleeping quarters allocated to crews of vessels, any equipment contained therein for the use of the occupants is not to be deducted from the total volume or from the deck area.

(c) *Equipment.* (1) Each person shall have a separate berth and not more than one berth shall be placed above another. The berths shall have a framework of metal or other hard, smooth

material not likely to corrode or harbor vermin, and shall be so arranged that they provide ample room for easy occupancy. The overall size of a berth shall not be less than 30 inches wide by 76 inches long, except by special permission of the Commandant. Where berths adjoin, they shall be divided by a partition not less than 18 inches in height. Where two tiers of berths are fitted, the bottom of the lower must not be less than 12 inches above the deck, and the bottom of the upper must not be less than 2 feet 6 inches both from the bottom of the lower and from the deck overhead. The berths shall not be obstructed by pipes, ventilating ducts, or other installations.

(2) A locker of metal or other hard, smooth material shall be provided for each person accommodated in a room. Each locker shall be not less than 300 square inches in cross section area and 60 inches high. It shall be so placed as to be readily accessible. The interior of the locker shall be so arranged as to facilitate the proper stowage of clothes.

#### § 92.20-25 Washrooms and toilet rooms.

(a) There shall be provided at least one toilet, one washbasin, and one shower or bathtub for each eight members or portion thereof in the crew to be accommodated. The crew to be accommodated shall include all members who do not occupy rooms to which private or semiprivate facilities are attached.

(b) Under the following conditions, the toilet and washing facilities for the specific groups of the crew indicated shall be located in spaces separate from the facilities for other crew members; and shall be provided for that group in the ratios required by paragraph (a) of this section.

(1) The members of the engine department, where their number, exclusive of licensed officers, and others separately provided for, exceeds eight.

(2) The members of the steward's department, exclusive of those separately provided for, where their number exceeds eight.

(c) The toilet rooms and washrooms shall be located convenient to the sleeping quarters of the crew to which they are allotted but shall not open di-

rectly into such quarters except when they are provided as private or semi-private facilities.

(d) All washbasins, showers, and bathtubs shall be equipped with proper plumbing, including hot and cold running water. Washbasins may be located in the crew sleeping quarters.

(e) The toilet rooms shall be separate from the washrooms and at least one washbasin shall be fitted in each toilet room, except where private or semi-private facilities are provided and washbasins are installed in the sleeping rooms.

(1) All toilets shall be installed with proper plumbing for flushing. Toilets shall be provided with seats of the open front type. Urinals may be fitted in toilet rooms, if desired, but no reduction in the required number of toilets will be made therefore.

(2) Where more than one toilet is located in a space or compartment, each toilet shall be separated by partitions, which shall be open at the top and bottom for ventilation and cleaning purposes.

[CGFR 65-50, 30 FR 16983, Dec. 30, 1965, as amended by CGD 73-119R, 38 FR 20449, Aug. 1, 1973]

#### §92.20-30 Messrooms.

(a) Messrooms shall be located as near to the galley or suitably equipped serving pantry as is practicable, except where messroom is equipped with a steam table. The messrooms shall be of such size as to seat the number of persons normally scheduled to be eating at one time.

(b) Messrooms shall be properly equipped with tables, seats, and other necessary equipment and shall be so arranged as to permit access to each seat.

#### §92.20-35 Hospital space.

(a) Except as specifically modified by paragraph (f) of this section, 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, shall be provided with a hospital space. This space shall be situated with due regard to the comfort of the sick so that they may receive proper attention in all weathers.

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

(c) The entrance shall be of such width and in such a position as to admit a stretcher case readily. Berths shall be of metal and may be in double tier, provided the upper berth is hinged and arranged to be secured clear of the lower berth when not in use. At least one berth shall be so arranged that it can be made accessible from both sides when necessary.

(d) The hospital shall be fitted with berths in the ratio of one berth to every twelve members of the crew or portion thereof who are not berthed in single occupancy rooms, but the number of berths need not exceed six.

(e) The hospital shall have a toilet, washbasin, and bath tub or shower conveniently situated. Other necessary suitable equipment of such character as clothes locker, table, seat, etc., shall be provided.

(f) On vessels in which the crew is berthed in single occupancy rooms a hospital space will not be required: *Provided*, That one room shall be designated and fitted for use as a treatment and/or isolation room. Such room shall meet the following standards:

(1) The room must be available for immediate medical use;

(2) The room must be accessible to stretcher cases;

(3) The room must have a single berth or examination table so arranged that it can be made accessible from both sides when necessary; and,

(4) A washbasin with hot and cold running water must be installed either in or immediately adjacent to the space and other required sanitary facilities must be conveniently located.

[CGFR 65-50, 30 FR 16983, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5718, Apr. 12, 1968]

#### §92.20-40 Other spaces.

(a) Sufficient facilities, depending upon the number of the crew, shall be provided where the crew may wash their own clothes. There shall be at least one tub or sink, fitted with the necessary plumbing, including hot and cold running water.

(b) Clothes drying facilities or space shall be provided for the needs of the crew.

(c) Recreation accommodations shall be provided. Where messrooms are used for this purpose, they shall be suitably planned.

#### § 92.20-45 Lighting.

(a) All crew spaces shall be adequately lighted in accordance with the requirements of subchapter J (Electrical Engineering) of this chapter.

[CGFR 65-50, 30 FR 16983, Dec. 30, 1965, as amended by CGD 74-125A, 47 FR 15232, Apr. 8, 1982]

#### § 92.20-50 Heating.

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

(b) The heating system will be considered satisfactory if it is capable of maintaining a minimum temperature of 70° F. under normal operating conditions without undue curtailment of the ventilation.

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

#### § 92.20-55 Insect screens.

(a) Except in such areas as are considered to be insect free, provisions shall be made to protect the crew quarters against the admission of insects. This may be accomplished by the fitting of suitable screens to ventilating skylights, air ports, ventilators, and doors to unscreened spaces and the open deck or by other methods. Insect screens are not required in air conditioned crew quarters for windows, air ports, and doors that are normally kept closed.

[CGFR 66-33, 31 FR 15284, Dec. 6, 1966]

#### § 92.20-90 Vessels contracted for prior to November 19, 1952.

(a) Vessels of less than 100 gross tons, contracted for prior to November 19, 1952, shall meet the general intent of

§ 92.20-5 and in addition shall 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 a suitable 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) Vessels of 100 gross tons and over, contracted for prior to March 4, 1915, shall 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 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: *Provided*, That in no case will a greater departure from the standards of §§ 92.20-5 through 92.20-55 be permitted than presently exists.

(c) Vessels of 100 gross tons and over, contracted for on or after March 4, 1915, but prior to January 1, 1941, shall 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. Minor repairs and alterations may be made to the same standard as the original construction.

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

(3) Crew spaces shall have a volume of at least 120 cubic feet and a deck area of at least 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 three days' duration between ports and which carries a crew of 12 or more persons, shall be provided with a suitable hospital space for the

exclusive use of the sick or injured. Berths shall be provided in the ratio of one berth for each twelve members of the crew or fraction thereof, but the number of berths need not exceed six.

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

(d) Vessels of 100 gross tons and over, contracted for on or after January 1, 1941, but prior to November 19, 1952, shall 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. Minor repairs and alterations may be made to the same standard as the original construction.

(2) Washrooms and toilet rooms:

(i) There shall be a minimum of one toilet, shower, and washbasin for each 8 members of the crew or fraction thereof who are not accommodated in rooms having attached private or semi-private facilities.

(ii) Separate facilities shall be provided for the engineroom, deck, or stewards department when the number of crew in that department, exclusive of officers, exceeds 8.

(iii) Toilet rooms shall be separate from the wash rooms. At least one washbasin shall be installed in each toilet room.

(iv) Toilets shall be provided with seats of the open front type. Urinals may be fitted in toilet rooms, if desired, but no reduction will be made in the required number of toilets.

(v) Washbasins, showers, and bath tubs if substituted for showers, shall be equipped with proper plumbing including hot and cold running water.

(3) Crew spaces shall have a volume of at least 120 cubic feet and a deck area of at least 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 three days duration between ports and which carries a crew of 12 or more persons, shall be provided with a suitable hospital space for the exclusive use of the sick or injured. Berths shall be provided in the ratio of one berth for each 12 members of the crew or fraction thereof, but the number of berths need not exceed six.

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

### Subpart 92.25—Rails and Guards

#### §92.25-1 Application.

(a) The provisions of this subpart, with the exception of §92.25-90, 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 §92.25-90.

[CGFR 65-50, 30 FR 16983, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17484, Oct. 29, 1969; CGD 80-120, 47 FR 5723, Feb. 8, 1982]

#### §92.25-5 Where rails required.

(a) All vessels shall have efficient guard rails or bulwarks on decks and bridges. The height of rails or bulwarks shall be at least 39½ inches from the deck except that where this height would interfere with the normal operation of the vessel, a lesser height may be approved by the Commandant. At exposed peripheries of the freeboard and superstructure decks, the 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. If it can be shown to the satisfaction of the Officer in Charge, Marine Inspection, that the installation of rails of such height will be unreasonable and impracticable, having regard to the business of the vessel, rails of a lesser height or in some cases grab rails may be accepted

and inboard rails may be eliminated if the deck is not generally accessible.

(b) 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 17484, Oct. 29, 1969, as amended by CGD 80-120, 47 FR 5723, Feb. 8, 1982]

#### § 92.25-10 Storm rails.

(a) On vessels in ocean and coastwise service, suitable storm rails shall be installed in all passageways and at the deckhouse sides where persons on board might have normal access. Storm rails shall be installed on both sides of passageways which are 6 feet or more in width.

#### § 92.25-15 Guards in dangerous places.

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

#### § 92.25-90 Vessels contracted for prior to July 1, 1969.

(a) 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 § 92.25-5. 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. However, in no case will greater departure from the standards of §§ 92.25-5 through 92.25-15 be permitted than presently exists.

[CGFR 69-72, 34 FR 17484, Oct. 29, 1969, as amended by CGD 80-120, 47 FR 5723, Feb. 8, 1982]

## PART 93—STABILITY

### Subpart 93.01—Application

Sec.  
93.01-1 General.

### Subpart 93.20—Bulk Grain Cargoes

93.20-01 Application.  
93.20-05 General.  
93.20-10 Document of authorization.  
93.20-15 Certificate of loading.  
93.20-20 Exemptions for certain voyages.

AUTHORITY: 46 U.S.C. 3306; 5115; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16988, Dec. 30, 1965, unless otherwise noted.

### Subpart 93.01—Application

#### § 93.01-1 General.

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

[CGD 79-023, 48 FR 51008, Nov. 4, 1983]

### Subpart 93.20—Bulk Grain Cargoes

SOURCES: CGD 74-182, 40 FR 36343, Aug. 20, 1975, unless otherwise noted.

#### § 93.20-01 Application.

The provisions of this subpart apply to all vessels that load grain in bulk after September 19, 1975 except:

(a) U.S. tank vessels which meet the requirements of 46 CFR 31.10-33.

(b) Vessels engaged on voyages solely between ports within the limits of the Great Lakes and the St. Lawrence River as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island, and east of line along the 63rd meridian from Anticosti Island to the north shore of St. Lawrence River.

#### § 93.20-05 General.

(a) Each cargo vessel or barge that carries grain in bulk must comply with the Annex to International Maritime



Organization (IMO, formerly Inter-Governmental Maritime Consultative Organization or IMCO) Resolution A.264(VIII). As used in Resolution A.264(VIII), the term "Administration" means "U.S. Coast Guard." Copies of Resolution A.264 (VIII) may be obtained from the National Cargo Bureau, Inc., One World Trade Center, Suite 2757, New York, N.Y. 10048; the Commandant (G-M), U.S. Coast Guard, Washington, DC 20593-0001 or the office of any Coast Guard District Commander or Officer in Charge, Marine Inspection. The provisions of IMO Resolution A.264(VIII) are published separately in U.S. Coast Guard Navigation and Inspection Circular No. 3-75 dated August 20, 1975.

(b) Notwithstanding the provisions of 46 CFR 56.50-50, bilges must be properly prepared and sounding pipes in place, clear and operable. If bilges are not present, suction must be boxed.

(c) When calculating the minimum required metacentric height (GM), a free surface allowance must be made for slack liquids. The free surface allowance used must be equal to or greater than the free surface allowance for the following combination of tanks:

(1) The maximum free surface for the pair of tanks, port and starboard, of each type of consumable liquid, having the largest free surface.

(2) The maximum free surface of the fuel oil settlers.

(3) The free surface at 5 degrees heel for all fuel tanks assumed 98% full except for the pair considered in paragraph (c)(1), of this section.

[CGD 74-182, 40 FR 36343, Aug. 20, 1975, as amended by CGD 88-070, 53 FR 34534, Sept. 7, 1988]

**§ 93.20-10 Document of authorization.**

(a) Before it can load grain, each vessel that carries grain in bulk must have a document of authorization issued in accordance with one of the following:

(1) If the document of authorization is issued on or after September 19, 1975, Regulation 10, part A of the Annex to IMO Resolution A.264(VIII).

(2) If the document of authorization is issued before September 19, 1975, 46 CFR 144.20-32 or Navigation and Vessel

Inspection Circular No. 10-69 dated November 20, 1969.

(b) The Commandant recognizes the National Cargo Bureau, Inc., One World Trade Center, Suite 2757, New York, N.Y. 10048, for the purpose of issuing documents of authorization in accordance with paragraph (a)(1) of this section.

**§ 93.20-15 Certificate of loading.**

(a) Before it can sail, each vessel that carries grain in bulk must have a certificate of loading issued by an organization recognized by the Commandant for that purpose. The certificate of loading may be accepted as prima facie evidence of compliance with these regulations.

(b) The Commandant recognizes the National Cargo Bureau, Inc., 30 Vesey Street, New York, NY 10007-2914, for the purpose of issuing certificates of loading.

[CGD 74-182, 40 FR 36343, Aug. 20, 1975, as amended by CGD 95-072, 60 FR 50464, Sept. 29, 1995]

**§ 93.20-20 Exemptions for certain voyages.**

(a) Vessels on a voyage that is within the inland waters of the United States are exempt from the regulations in this subpart.

(b) Vessels on a voyage between (1) United States ports along the East Coast as far south as Cape Henry;

(2) Wilmington, N.C. and Miami, Fla.;

(3) United States ports in the Gulf of Mexico;

(4) Puget Sound ports and Canadian West Coast ports or Columbia River ports, or both;

(5) San Francisco, Los Angeles, and San Diego; or

(6) Great Lakes ports and St. Lawrence River ports as far east as a straight line drawn from Cape de Rosiers to West Point, Anticosti Island, and east of a line drawn along the 63rd meridian from Anticosti Island to the north shore of the St. Lawrence River; are exempt from 46 CFR 93.20-05(a) if—

(1) The master is satisfied that the longitudinal strength of his vessel is not impaired;

(ii) The master ascertains the weather to be encountered on the voyage;

(iii) Potential heeling moments are reduced to a minimum value by carrying as few slack holds as possible;

(iv) Slack surfaces are leveled; and

(v) The metacentric height (GM) in feet on the vessel throughout the voy-

age after correction for liquid free surface, is in excess of the required metacentric height (GM), in feet as obtained from Table 93.17-15(b).

TABLE 93.17-15—Calculation of GM  
GM=LxTabular value

[Tabular value: If the ratio of available freeboard to beam is more than 0.268 the required GM in order to shift the vessel shall be calculated by multiplying the applicable figure below by the total length of slack surfaces. If the ratio found above is less than 0.268 the tabular values shall be adjusted by multiplying by 0.268 and dividing by the actual ratio found]

Displacement of vessel (in 1,000 long tons)	Breadth (feet)												
	40	45	50	55	60	65	70	76	80	85	90	95	100
10	0.0094	0.0134	0.0184	0.0244	0.0317	0.0403	0.0504	0.0619	0.0752	0.0902	0.1070	0.129	0.1488
20	.0047	.0067	.0092	.0122	.0159	.0202	.0262	.0310	.0376	.0451	.0535	.062	.0739
30	.0031	.0045	.0061	.0081	.0108	.0134	.0168	.0206	.0251	.0301	.0357	.042	.0489
40	.0023	.0033	.0046	.0061	.0079	.0101	.0126	.0155	.0188	.0225	.0268	.031	.0367
50	.0019	.0027	.0038	.0049	.0063	.0081	.0101	.0124	.0150	.0180	.0214	.025	.0294
60	.0016	.0022	.0031	.0041	.0053	.0067	.0084	.0103	.0125	.0150	.0178	.021	.0245
70	.0013	.0019	.0026	.0035	.0045	.0058	.0072	.0088	.0107	.0129	.0153	.018	.0210
80	.0012	.0017	.0023	.0031	.0040	.0050	.0063	.0077	.0094	.0113	.0134	.016	.0184
90	.0010	.0016	.0020	.0027	.0035	.0045	.0056	.0068	.0084	.0100	.0119	.014	.0163
100	.0009	.0013	.0018	.0024	.0032	.0040	.0050	.0062	.0075	.0090	.0107	.012	.0147

where:

L=Total length of slack surfaces

B=Maximum breadth of slack surfaces

Δ=Displacement of vessel in 1,000 long tons

NOTE: In those portions of length which are divided by a centerline bulthead 1/4 of the tabular value may be used. The table is calculated for wheat. If necessary the GM may be adjusted for other grains by multiplying by the following factors.

Stowage Factor approximately 50 corn, rye, soybeans	0.9
Stowage Factor approximately 56 barley	.8
Stowage Factor approximately 70 oats	.6

[CGD 74-182, 40 FR 96948, Aug. 20, 1975; 40 FR 42195, Sept. 11, 1975]

**PART 94—LIFESAVING EQUIPMENT****Subpart 94.01—Application**

Sec.

- 94.01-1 Details of application.
- 94.01-3 Incorporation by reference.

**Subpart 94.05—General Provisions Pertaining to Lifesaving Equipment**

- 94.05-1 Equipment of an approved type.
- 94.05-5 Equipment installed but not required.
- 94.05-10 Primary lifesaving equipment.

**Subpart 94.10—Lifeboats, Liferrafts, Lifefloats, Buoyant Apparatus, and Rescue Boats.**

- 94.10-1 Application.
- 94.10-5 Type of lifeboats, liferafts, lifefloats, buoyant apparatus, and rescue boats required.
- 94.10-10 Requirements for vessels in ocean or coastwise service other than barges; towing, fishing, and wrecking vessels; pilot boats; and yachts.
- 94.10-15 Requirements for seagoing barges in ocean or coastwise service.
- 94.10-20 Requirements for towing, fishing, and wrecking vessels, and pilot boats in ocean or coastwise service.
- 94.10-25 Requirements for yachts in ocean or coastwise service.
- 94.10-40 Requirements for vessels in Great Lakes; lakes, bays, and sounds; or river service other than fireboats, wrecking and fishing vessels, pilot boats, and yachts.
- 94.10-45 Requirements for fireboats, wrecking and fishing vessels, and pilot boats in Great Lakes; lakes, bays, and sounds; or river service.
- 94.10-50 Requirements for yachts in Great Lakes; lakes, bays, and sounds; or river service.
- 94.10-55 Inflatable liferafts as an alternate for lifeboats, other liferafts, lifefloats and buoyant apparatus on certain vessels not on an international voyage.
- 94.10-90 Vessels contracted for prior to May 26, 1965.

**Subpart 94.15—Stowage and Marking of Lifeboats, Liferrafts, Lifefloats, and Buoyant Apparatus**

- 94.15-1 Application.
- 94.15-5 General.
- 94.15-10 Stowage.
- 94.15-15 Marking.
- 94.15-90 Vessels contracted for prior to May 26, 1965.

**Subpart 94.20—Equipment for Lifeboats, Liferrafts, Lifefloats, and Buoyant Apparatus**

- 94.20-1 Application.
- 94.20-5 General.
- 94.20-10 Required equipment for lifeboats.
- 94.20-15 Description of equipment for lifeboats.
- 94.20-20 Required equipment for liferafts.
- 94.20-25 Description of equipment for liferafts.
- 94.20-30 Required equipment for lifefloats and buoyant apparatus.
- 94.20-35 Description of equipment for lifefloats and buoyant apparatus.
- 94.20-90 Vessels contracted for prior to May 26, 1965.

**Subpart 94.25—Davits for Lifeboats**

- 94.25-1 Application.
- 94.25-5 General.
- 94.25-10 Requirements for vessels in ocean or coastwise service.
- 94.25-15 Requirements for vessels in Great Lakes, lakes, bays, and sounds, or river service.
- 94.25-90 Vessels contracted for prior to May 26, 1965.

**Subpart 94.30—Lifeboat Winches**

- 94.30-1 Application.
- 94.30-5 General.
- 94.30-10 Number and type required.
- 94.30-15 Installation.
- 94.30-90 Vessels contracted for prior to November 19, 1952.

**Subpart 94.33—Blocks and Falls for Lifeboats**

- 94.33-1 Application.
- 94.33-5 General.
- 94.33-10 Installations where lifeboat winches are used.
- 94.33-15 Installations where lifeboat winches are not used.
- 94.33-90 Vessels contracted for prior to May 26, 1965.

**Subpart 94.35—Installation of Lifeboats, Davits, and Winches**

- 94.35-1 Application.
- 94.35-5 Tests and examinations.

**Subpart 94.40—Life Preservers**

- 94.40-1 Application.
- 94.40-5 General.
- 94.40-10 Number required.
- 94.40-15 Distribution and stowage.
- 94.40-25 Retroreflective material.
- 94.40-90 Vessels contracted for prior to May 26, 1965.

**Subpart 94.41—Exposure Suits**

- 94.41-1 Applicability.
- 94.41-5 Number and type required.
- 94.41-10 Stowage containers.

**Subpart 94.42—Personal Flotation Device Lights and Whistles.**

- 94.42-1 Personal flotation device lights.
- 94.42-5 Whistles.

**Subpart 94.43—Ring Life Buoys and Water Lights**

- 94.43-1 Application.
- 94.43-5 General.
- 94.43-10 Number required.
- 94.43-15 Distribution and securing.
- 94.43-90 Vessels contracted for prior to May 26, 1965.

**Subpart 94.45—Line-Throwing Appliances**

- 94.45-1 Application.
- 94.45-5 General.
- 94.45-10 Type required.
- 94.45-15 Equipment for line-throwing appliances.
- 94.45-20 Accessibility.
- 94.45-25 Service recommendations.
- 94.45-90 Vessels contracted for prior to November 19, 1952.

**Subpart 94.50—Embarkation Aids**

- 94.50-1 Application.
- 94.50-5 Ladders.
- 94.50-7 Embarkation aids into inflatable liferafts.
- 94.50-10 Illumination for lifeboat launching operations.
- 94.50-15 Illumination for liferaft stowage areas.
- 94.50-90 Vessels contracted for prior to May 26, 1965.

**Subpart 94.55—Portable Radio Apparatus**

- 94.55-1 Required on international voyage.

**Subpart 94.60—Emergency Position Indicating Radiobeacon (EPIRB)**

- 94.60-1 Emergency position indicating radiobeacon (EPIRB).

**Subpart 94.90—Ship's Distress Signals**

- 94.90-1 Application.
- 94.90-5 Vessels in ocean or coastwise service.
- 94.90-10 Vessels in Great Lakes service.
- 94.90-15 Vessels on short runs.

AUTHORITY: 46 U.S.C. 3102; 3306; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16989, Dec. 30, 1965, unless otherwise noted.

**Subpart 94.01—Application**

**§94.01-1 Details of application.**

(a) Except as specifically noted, the provisions of this part shall apply to all vessels other than motorboats. Motorboats shall meet the requirements of subparts 94.01, 94.05, and 94.40, and §94.10-1(c).

**§94.01-3 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, Design and Engineering Standards Division (G-MMS), 2100 Second Street SW., Washington, DC 20593-0001, and is available from the address indicated in paragraph (b) of this section.

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

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, PA 19103.  
ASTM F1014-1986 Standard Specification for Flashlights on Vessels.  
Sections effected—94.20-15(j).

NOTE: All other documents referenced in this part are still in effect.

[CGD 82-042, 53 FR 17704, May 18, 1988, as amended by CGD 95-072, 60 FR 50464, Sept. 29, 1995]

**Subpart 94.05—General Provisions Pertaining to Lifesaving Equipment**

**§94.05-1 Equipment of an approved type.**

(a) Where equipment in this part is required to be of an approved type such equipment requires the specific approval of the Commandant. Such approvals are published in the FEDERAL REGISTER and in addition, are con-

tained in Coast Guard publication CG-190, "Equipment Lists."

(b) Specifications for many of the items required to be of an approved type have been promulgated and are contained in subchapter Q (Specifications) of this chapter. In general, such specifications are of interest only to the manufacturer of specific items of equipment.

**§94.05-5 Equipment installed but not required.**

(a) Where items of lifesaving equipment are not required, but are installed, such equipment and its installation shall meet the requirements of this part.

**§94.05-10 Primary lifesaving equipment.**

(a) The term "primary lifesaving equipment" means a lifeboat or an acceptable substitute. Life preservers and ring life buoys are not included in this definition of "primary lifesaving equipment."

**Subpart 94.10—Lifeboats, Liferrafts, Lifefloats, Buoyant Apparatus, and Rescue Boats**

**§94.10-1 Application.**

(a) Except as otherwise provided in this section, the provisions of this subpart shall apply to all vessels other than motorboats, contracted for on or after May 26, 1965.

(b) Vessels other than motorboats, contracted for prior to May 26, 1965, shall meet the requirements of §94.10-90.

(c) Inspected motorboats carrying freight for hire shall be provided with such number and size of approved liferafts, lifefloats, or buoyant apparatus as deemed necessary by the Officer in Charge, Marine Inspection. Workboats or skiffs may be permitted by the Officer in Charge, Marine Inspection, if considered suitable.

(d) In the case of special types of vessels subject to the International Convention for Safety of Life at Sea, 1974, which are not specifically treated in this subpart, such as whale factory ships, fish processing and canning ships, etc., the Commandant may give special consideration as to lifesaving

equipment requirements to the extent permitted by the International Convention for Safety of Life at Sea, 1974.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGD 90-008, 55 FR 30662, July 26, 1990]

**§94.10-5 Type of lifeboats, liferafts, lifefloats, buoyant apparatus, and rescue boats required.**

(a) *Lifeboats.* (1) All lifeboats shall be of an approved type, constructed in accordance with subpart 160.035 of subchapter Q (Specifications) of this chapter except as specifically noted in this part.

(2) All lifeboats certified to carry 60 or more but not over 100 persons shall be either motor lifeboats or shall be fitted with an approved type of handpropelling gear. Lifeboats carrying more than 100 persons shall be motor lifeboats.

(3) A Class 1 motor lifeboat is one that is fitted with a compression-ignition engine, is capable of being readily started in all conditions, and has sufficient fuel for 24 hours continuous operation. The speed ahead in smooth water when loaded with its full complement of persons and equipment shall be at least 6 knots.

(4) Except as further modified in this paragraph, all lifeboats, except those installed on vessels in river service, shall be fitted with suitable disengaging apparatus consisting of fixed hooks in the lifeboat or mechanical disengaging apparatus. Mechanical disengaging apparatus, if fitted shall be of an approved type, constructed in accordance with subpart 160.033 of Subchapter Q (Specifications) of this chapter.

(i) All lifeboats installed on ocean, coastwise, or Great Lakes vessels of over 3,000 gross tons shall be fitted with mechanical disengaging apparatus so arranged as to make it possible for the lifeboats to be launched with their full complement of persons and equipment while such vessels are underway or stopped, and for both ends of the lifeboat to be released simultaneously, under tension or not, by one person. Simultaneous release shall be effected by partially rotating a shaft which shall be continuous and extend from points of contact with the hooks.

(ii) All lifeboats installed on any particular vessel shall be fitted with the same type of disengaging apparatus.

(iii) On small vessels, the Commandant may approve means other than those previously mentioned to agree with the needs of a particular vessel.

(b) *Liferafts.* (1) All rigid type liferafts shall be of an approved type, constructed in accordance with subpart 160.018 of subchapter Q (Specifications) of this chapter. Type A liferafts shall be stowed on the standard liferaft skids required by §94.15-10(c)(1) unless specifically noted otherwise. Rigid type liferafts shall not be used as required equipment on vessels on an international voyage.

(2) An inflatable liferaft must meet the following:

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

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

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

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

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

(3) On vessels on an international voyage, each inflatable liferaft shall have a carrying capacity of not less than 6 nor more than 25 persons.

(c) *Lifefloats.* (1) All lifefloats shall be of an approved type, constructed in accordance with subpart 160.027 of subchapter Q (Specifications) of this chapter.

(d) *Buoyant apparatus.* (1) All buoyant apparatus shall be of an approved type, constructed in accordance with subpart

160.010 of subchapter Q (Specifications) of this chapter.

(e) *Rescue boat.* (1) In general, a suitable rescue boat shall be a small lightweight boat of rigid construction, with built-in buoyancy and capable of being readily launched and easily maneuvered. Also it shall be of adequate proportion to permit taking an unconscious person on board without capsizing. A rescue boat and its installation shall be acceptable to the Officer in Charge, Marine Inspection, as suitable for the rescue of persons accidentally falling over the side, or for similar emergency purposes. The size, shape, installation, and other factors of suitability will be determined with due consideration of the size, arrangement, intended service, and crew requirements of the vessel on which it is to be installed.

(2) For protected waters, a rescue boat constructed in accordance with subpart 160.056 of subchapter Q (Specifications) of this chapter is acceptable in meeting the intent of this paragraph. For exposed waters, a more seaworthy rescue boat may be required, but in no case shall more than one approved lifeboat suitable for rescue work be required.

[CGFR 65-50, 30 FR 16969, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19986, Dec. 28, 1968; CGD 75-040, 40 FR 58454, Dec. 17, 1975]

**§94.10-10 Requirements for vessels in ocean or coastwise service other than barges; towing, fishing, and wrecking vessels; pilot boats; and yachts.**

(a) All vessels 500 gross tons and over shall be provided with sufficient lifeboats on each side to accommodate all persons on board.

(b) All vessels of less than 500 gross tons shall be provided with sufficient lifeboats to accommodate all persons on board.

(c) Lifeboats shall be not less than 24 feet in length, except where owing to the size of the vessel, or for other reasons, the Commandant considers the carriage of such lifeboats to be unreasonable or impracticable. However, in no case shall lifeboats of less than 16 feet in length be used.

(d) All vessels of 1,600 gross tons and over on an international voyage shall

carry at least one motor-propelled lifeboat of Class 1.

(e) In addition to the lifeboats required by paragraph (a) of this section, each vessel on an international voyage and each vessel in ocean or coastwise service must carry liferafts of sufficient aggregate capacity to accommodate at least 50 percent of the persons on board. Those vessels that have widely separated accommodation or working spaces must have at least one liferaft in each such location.

(f) Inflatable liferafts may be substituted for lifeboats on certain vessels not on an international voyage in accordance with § 94.10-55.

[CGFR 68-65, 33 FR 19986, Dec. 28, 1968, as amended by CGD 79-072, 46 FR 28168, May 26, 1981]

**§ 94.10-15 Requirements for seagoing barges in ocean or coastwise service.**

(a) All manned seagoing barges of 100 gross tons and over shall be provided with a lifeboat of sufficient capacity for all persons on board. All lifeboats shall have a capacity of at least 80 cubic feet.

(b) Inflatable liferafts may be substituted for lifeboats on certain vessels in accordance with § 94.10-55.

(c) All manned seagoing barges of 100 gross tons and over in ocean or coastwise service, having widely separated accommodation or working spaces, must have at least one liferaft, of sufficient aggregate capacity to accommodate at least 50 percent of the persons on board, in each such location.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGD 79-072, 46 FR 28168, May 26, 1981]

**§ 94.10-20 Requirements for towing, fishing, and wrecking vessels, and pilot boats in ocean or coastwise service.**

(a) All vessels of 500 gross tons and over on an international voyage, other than fishing vessels, shall meet the applicable requirements of § 94.10-10 in lieu of the requirements of this section.

(b) All vessels shall carry sufficient lifeboats or flotation equipment for all persons on board. In lieu of the standard lifeboats required by § 94.10-5(a), the following types of boats or flota-

tion equipment may be used by the vessels specified:

(1) Vessels engaged exclusively in the business of purse seining may use their seine boats.

(2) Vessels engaged exclusively in the business of hook and line fishing from dories may use their dories provided they are fitted with air tanks of sufficient capacity to meet the requirements of subpart 160.035 of subchapter Q (Specifications) of this chapter for lifeboats.

(3) Vessels engaged exclusively in the business of wrecking may use their surf boats.

(4) Vessels engaged exclusively in the business of furnishing pilots to vessels may use their launches and/or yawls.

(5) Vessels not exceeding 150 feet in length which are under 300 gross tons engaged exclusively in the business of transporting supplies, equipment, and cargo to or from operational sites of exploration, development, removal and storage of resources or related activities thereof on the continental shelf of the United States in the Gulf of Mexico, in the Atlantic Ocean south of the thirty-third parallel north latitude and in the Pacific Ocean may use lifefloats in lieu of lifeboats if a suitable rescue boat is carried and is adequately installed. Vessels in this category may carry persons in addition to the crew up to the number specified in the certificate of inspection, but not to exceed 16, and such persons may be only industry personnel engaged exclusively in the exploration, development, removal and storage of resources, or related activities thereof, who are required by the nature of their work to ride such vessels.

(c) All lifeboats shall have a capacity of at least 180 cubic feet. However, the Coast Guard District Commander may, in exceptional cases, permit smaller lifeboats where the crew is insufficient to handle the larger lifeboat or where there is lack of space to carry such larger lifeboat. In no case may lifeboats be used having a capacity of less than 125 cubic feet.

(d) Inflatable liferafts may be substituted for lifeboats, liferafts, lifefloats and buoyant apparatus on



certain vessels in accordance with §94.10-55.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19986, Dec. 28, 1968]

**§94.10-25 Requirements for yachts in ocean or coastwise service.**

(a) All yachts in ocean service shall have an aggregate lifeboat and liferaft capacity for all persons on board. Not less than 75 percent of the required capacity shall be in lifeboats and the remainder may be in Type A or Type B liferafts.

(b) All yachts in coastwise service shall have an aggregate lifeboat and liferaft capacity as required in paragraph (a) of this section, except that during the interval between May 15 and October 15, in any one year, both dates inclusive, they shall only be required to be equipped with lifeboat and liferaft capacity to accommodate 70 percent of all persons on board, not less than 50 percent of the required capacity shall be in lifeboats and the remainder may be in Type A or Type B liferafts.

(c) All lifeboats shall have a capacity of at least 125 cubic feet. However, the Coast Guard District Commander may, if he deems it proper, modify the requirements as to the size of lifeboats.

(d) Yachts may use their launches in lieu of the standard lifeboats required by §94.10-5(a), provided the launches are equipped with air tanks of sufficient capacity to meet the requirements of subpart 160.035 of subchapter Q (Specifications) of this chapter for lifeboats. Such launches shall be fitted with suitable nameboards or the name of the vessel shall be painted on the bow or stern.

(e) Inflatable liferafts may be substituted for lifeboats and liferafts on certain vessels in accordance with §94.10-55.

**§94.10-40 Requirements for vessels in Great Lakes; lakes, bays, and sounds; or river service other than fireboats, wrecking and fishing vessels, pilot boats, and yachts.**

(a) All vessels, except those on an international voyage, shall be provided with lifeboats and liferafts as required by Table 94.10-40(a).

**TABLE 94.10-40(a)—LIFEBOATS AND LIFERAFTS REQUIRED ON VESSELS IN GREAT LAKES; LAKES, BAYS, AND SOUNDS, AND RIVER SERVICE OTHER THAN FIREBOATS, WRECKING AND FISHING VESSELS, PILOT BOATS, AND YACHTS**

	Great Lakes			Lakes, bays and sounds		Rivers	
	Vessels carrying cargo and other vessels of 300 gross tons and over	Other vessels		50 gross tons and over	Under 50 gross tons	50 gross tons and over	Under 50 gross tons
		50 gross tons and over, but less than 300 gross tons	Under 50 gross tons				
Percentage of persons to be accommodated.	200 .....	100 .....	100 .....	100 .....	100 .....	At least one suitable boat with lines attached and supplied with oars. <sup>1</sup>	Only lifeboats or liferafts as in the judgment of Officer in Charge, Marine Inspection, are necessary. <sup>1</sup>
Percentage of required equipment in lifeboats.	<sup>1</sup> 100 .....	<sup>2</sup> 50 .....	Either lifeboats or liferafts. <sup>1</sup>	<sup>1,2</sup> 50 .....	Either lifeboats or liferafts. <sup>1</sup>	.....do .....	Do.
Percentage of required equipment which may be in Type A or Type B liferafts.	None .....	None .....	.....do .....	50 in either Type A, B, or inflatable liferafts.	.....do .....	None .....	None.
Percentage of required equipment in inflatable liferafts.	<sup>3</sup> 100 .....	50 .....	.....do .....	.....do .....	.....do .....	.....do .....	Do.

<sup>1</sup> Vessels navigating waters where the average depth of the channel does not exceed 3 feet shall not be required to be equipped with boats.

<sup>2</sup> Harbor towing vessels of less than 150 gross tons may substitute one or more liferafts of Type A or Type B for the lifeboats required if the lifeboats interfere with the practical operation of the vessel and the substitution may be made with safety in the opinion of the Officer in Charge, Marine Inspection.

<sup>3</sup> Every vessel of 300 gross tons and over, having widely separated accommodations or working spaces, must have at least one liferaft, of sufficient aggregate capacity to accommodate at least 50 percent of the persons on board, in each such location.

(b) Inflatable liferafts may be substituted for lifeboats and liferafts on certain vessels in accordance with §94.10-55.

(c) All vessels on an international voyage shall meet the applicable requirements of §94.10-10.

[CGFR 65-50, 30 FR 16389, Dec. 30, 1965, as amended by CGFR 68-18, 33 FR 2847, Feb. 10, 1968; CGD 79-072, 46 FR 23169, May 26, 1981]

**§94.10-45 Requirements for fireboats, wrecking and fishing vessels, and pilot boats in Great Lakes; lakes, bays, and sounds; or river service.**

(a) All vessels of 50 gross tons and over shall have an aggregate lifeboat and liferaft capacity to accommodate all persons on board. Not less than 50 percent of such capacity shall be in lifeboats and the remainder may be in Type A or Type B liferafts.

(b) All vessels of less than 50 gross tons shall have an aggregate lifeboat and liferaft capacity to accommodate all persons on board. The liferafts may be either Type A or Type B.

(c) In lieu of the standard lifeboats required by §94.10-5(a) the following types of boats may be used:

(1) Vessels used exclusively as fireboats and connected to or belonging to a regularly organized fire department shall be required to carry only such boats or rafts as in the judgment of the Officer in Charge, Marine Inspection, may be required to carry the crew.

(2) Vessels engaged exclusively in the business of furnishing pilots to vessels may use their launches and/or yawls.

(3) Vessels engaged exclusively in the business of wrecking may use their surf boats.

(4) Vessels engaged exclusively in the business of seine fishing may use their seine boats.

(d) Inflatable liferafts may be substituted for lifeboats and liferafts on certain vessels in accordance with §94.10-55.

**§94.10-50 Requirements for yachts in Great Lakes; lakes, bays, and sounds; or river service.**

(a) All yachts shall be fitted with lifeboats and liferafts as required by Table 94.10-40(a), depending upon the service. Alternatively, such equipment may be provided as required by Table 75.10-20(a) of subchapter H (Passenger Vessels) of this chapter.

(b) Inflatable liferafts may be substituted for lifeboats and liferafts on certain vessels in accordance with §94.10-55.

**§94.10-55 Inflatable liferafts as an alternate for lifeboats, other liferafts, lifeboats, and buoyant apparatus on certain vessels not on an international voyage.**

(a)(1) On all vessels inflatable liferafts may be permitted as substitutes for other types of liferafts, lifeboats, and buoyant apparatus wherever they may be required.

(2) The capacity of inflatable liferafts carried in place of other liferafts, lifeboats, and buoyant apparatus shall be at least equivalent to that required of the equipment for which substitution is made. This requirement is in addition to the inflatable liferafts required by §94.10-10(e).

(3) The substitution of inflatable liferafts shall not be made without prior approval of the Officer in Charge, Marine Inspection.

(b) On all vessels less than 3,000 gross tons the substitution of liferafts for lifeboats may be permitted as follows:

(1)(i) On all vessels under 500 gross tons, inflatable liferafts may be substituted for all required lifeboats.

(ii) The total capacity of the inflatable liferafts shall be at least equal to the total number of persons that the lifeboats would have been required to accommodate. In the case of total substitution of inflatable liferafts, at least two inflatable liferafts shall be carried. Partial substitution is permissible provided the aggregate lifeboat and inflatable liferaft capacity is sufficient to

accommodate the required number of persons.

(ii) Where substitution of inflatable liferafts is made, a suitable rescue boat shall be provided. In the case of partial substitution, a lifeboat may serve as the rescue boat.

(iv) In the exceptional case on a vessel under 100 gross tons, the rescue boat may be omitted when it can be shown to the satisfaction of the Commandant that it is not necessary due to the size, arrangement and maneuverability of the vessel, and its intended service.

(2)(1) On all vessels of 500 gross tons and upward to 1,600 gross tons, inflatable liferafts may be substituted for all required lifeboats provided one approved lifeboat of a size acceptable to the Officer in Charge, Marine Inspection, suitable for rescue purposes, is installed.

(i) The aggregate lifeboat and inflatable liferaft capacity shall be at least equal to the total number of persons that the lifeboats would have been required to accommodate.

(ii) The launching arrangement and location of the lifeboat to be used as rescue boat shall be such that it can be readily launched and shall be to the satisfaction of the Officer in Charge, Marine Inspection.

(3)(1) On all vessels of 1,600 gross tons and upward to 3,000 gross tons, inflatable liferafts may be substituted for all except two of the required lifeboats. These lifeboats shall be of a size acceptable to the Officer in Charge, Marine Inspection, and shall be suitable for rescue purposes. In all cases, two approved lifeboats, one on each side, shall be provided.

(i) The aggregate lifeboat and inflatable liferaft capacity shall be at least equal to the total number of persons that the lifeboats, for which substitutions are made plus those remaining on board, would have been required to accommodate.

(4) The substitution of inflatable liferafts for lifeboats shall not be made without prior approval of the Officer in Charge, Marine Inspection.

(c) On all seagoing barges of 100 gross tons and over an inflatable liferaft may be substituted for the required lifeboat, the total capacity of which shall be

sufficient to accommodate all persons on board.

(1) On seagoing barges employed as drilling tenders in the offshore oil exploration industry where substitution of inflatable liferafts is made, a suitable rescue boat shall be provided. In the case of partial substitution, a lifeboat may serve as the rescue boat.

(d) The Commandant may give special consideration to the substitution of approved inflatable liferafts for required lifeboats on vessels of 3,000 gross tons and over.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19986, Dec. 28, 1968]

**§94.10-90 Vessels contracted for prior to May 28, 1965.**

(a) Vessels contracted for prior to May 28, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§94.10-5 through 94.10-55 shall be complied with insofar as the number and general type of lifesaving equipment is concerned. Existing items of lifesaving equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§94.10-5 through 94.10-55 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 specifications or requirements.

(2) On vessels of over 3,000 gross tons certificated for ocean, coastwise, or Great Lakes service, all replacement of disengaging apparatus shall meet the requirements of §94.10-5(a)(4)(1). On all other vessels certificated for any service, all of the lifeboats on a particular vessel shall be fitted with the same type of disengaging apparatus.

(3) The requirements of §94.10-10(c) shall not apply except for replacements, and then only if it can be done without change to existing davits and arrangements.

## Subpart 94.15—Stowage and Marking of Lifeboats, Liferrafts, Lifefloats, and Buoyant Apparatus

### §94.15-1 Application.

(a) The provisions of this subpart, with the exception of §94.15-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of §94.15-90.

### §94.15-5 General.

(a) The lifeboats, liferafts, lifefloats, and buoyant apparatus shall be readily available in the case of emergency, and shall be kept in good working order and available for immediate use at all times when the vessel is being navigated and, insofar as reasonable and practicable, while the vessel is not being navigated.

(b) The decks on which lifeboats, liferafts, lifefloats, and buoyant apparatus are carried shall be kept clear of freight or any other obstructions which would interfere with the immediate launching of the lifesaving appliances.

### §94.15-10 Stowage.

(a) *General.* Lifeboats, liferafts, lifefloats, and buoyant apparatus shall be stowed in such a manner that:

(1) They are capable of being launched in the shortest possible time.

(2) They shall not impede the launching or handling of other lifesaving appliances.

(3) They shall not impede the marshalling of persons at the embarkation stations, or their embarkation.

(4) They shall be capable of being put in the water safely and rapidly even under unfavorable conditions of list and trim.

(b) *Lifeboat stowage.* (1) Every lifeboat shall be attached to a separate set of davits.

(2) Suitable access to the lifeboats shall be provided to enable the crew to prepare the lifeboats for launching.

(3) Lifeboats shall be so stowed that embarkation into them may be made rapidly and in good order.

(4) Lifeboats shall not be stowed in the bows of the vessel nor as far aft as

to be endangered by the propellers or overhang of the stern.

(5) Lifeboats shall be so stowed that it shall not be necessary to lift them in order to swing out the davits, except on small vessels where such requirement is unreasonable and impracticable in the opinion of the Officer in Charge, Marine Inspection.

(6) Means shall be provided for bringing the lifeboats against the ship's side and holding them there so that persons may be safely embarked.

(7) On vessels certificated for ocean or coastwise service, lifeboats shall be fitted with skates or other suitable means to facilitate launching against an adverse list of up to 15 degrees. However, skates may be dispensed with if, in the opinion of the Commandant, the arrangements are such as to insure that the lifeboats can be satisfactorily launched without such skates.

(8) On vessels in ocean and coastwise service, where applicable, means shall be provided outside the machinery space to prevent the discharge of water into the lifeboats while they are being lowered. This shall consist of baffles to deflect the water down the vessel's side, or reach rods, or other means to close the discharge openings.

(c) *Liferaft stowage.* (1) Type A liferafts shall be stowed on standard skids constructed in accordance with Subpart 160.042 of Subchapter Q (Specifications) of this chapter.

(2) Type B liferafts shall be stowed in such a manner that they may be readily launched.

(3) The additional liferaft required on Great Lakes vessels by Table 94.10-40(a) shall be stowed in such a manner that it will float clear in the event of sinking of the vessel. The requirements of paragraphs (c) (1) and (2) of this section need not be complied with for such liferaft.

(4) Inflatable liferafts shall be stowed in such a manner that they will float free in the event of the vessel sinking. Stowage and launching arrangements will be to the satisfaction of the Officer in Charge, Marine Inspection.

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

(1) The float-free link must be—

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

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

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

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

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

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

(iii) If metal, be corrosion resistant.

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

(i) Encircles the body of the device,

(ii) Will not slip off,

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

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

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

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

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

(ii) Each life float and buoyant apparatus is individually attached to the painter by a line that meets §§94.20-35 (d) (2) and (3) and which is long enough so that each can float without contacting any other life float or buoyant apparatus in the group, and

(iii) The strength of the float-free link under paragraph (d)(1)(ii) of this section and the strength of the painter under §94.20-35(d)(2) is determined by the combined capacity of the group of life floats and buoyant apparatus.

(6) Stowing of life floats and buoyant apparatus must allow easy launching. Life floats and buoyant apparatus over

185 kg (400 lb.) must not require lifting before launching.

(7) Life floats and buoyant apparatus must not be secured to the vessel except by the painter and by lashings which can be easily released or hydraulic releases. They must not be stowed in more than four tiers. When stowed in tiers, the separate units must be kept apart by spacers.

(8) There must be means to prevent shifting.

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

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGD 79-167, 47 FR 41372, Sept. 20, 1982]

**§94.15-15 Marking.**

(a) Lifeboats, liferafts, lifefloats, and buoyant apparatus shall be marked as required by §§97.37-37 and 97.37-40 of this subchapter.

**§94.15-90 Vessels contracted for prior to May 26, 1965.**

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) The provisions of §§94.15-5 through 94.15-15 shall be met except as further set forth in this paragraph.

(2) The requirements of §94.15-10(b)(7) shall apply unless in the opinion of the Officer in Charge, Marine Inspection, it is unreasonable or impracticable, or the arrangement or construction of the vessel make the use of skates or similar appliances unnecessary.

**Subpart 94.20—Equipment for Lifeboats, Liferafts, Lifefloats, and Buoyant Apparatus**

**§94.20-1 Application.**

(a) The provisions of this subpart, with the exception of §94.20-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of §94.20-90.

**§94.20-5 General.**

(a) Equipment for lifeboats, liferafts, lifefloats, and buoyant apparatus shall

be of good quality, efficient for the purpose they are intended to serve, and kept in good condition.

(b) Lifeboats, liferafts, lifefloats, and buoyant apparatus shall be fully equipped before the vessel is navigated and the equipment shall remain in such lifesaving appliances throughout the voyage, except as provided in §97.15-45(e) of this subchapter.

(c) It shall be unlawful to stow in any lifeboat, liferaft, lifefloat, or buoyant apparatus any article not required by this subpart unless such article can be properly stowed so as not to reduce the seating capacity or space available to the occupants and so as not to adversely affect the seaworthiness of

such appliances or, in the case of lifeboats, overload the davits or winches.

(d) Loose equipment, except boat-hooks in lifeboats, shall be securely attached to the lifesaving appliance to which it belongs.

**§94.20-10 Required equipment for lifeboats.**

(a) The lifeboats for all vessels shall be equipped in accordance with Table 94.20-10(a). For a description of the items contained in this table, and the units comprising the items, see the applicable paragraphs of §94.20-15. The letter identification prefixing the item in the table corresponds to the paragraph designations in §94.20-15.

TABLE 94.20-10(a)

Letter ident.	Item	Ocean and coast-wise		Great Lakes		Lakes, bays, and sounds; and rivers
		Other than seabarges	Sea-going barges	Vessels carry-cargo	Other	
a	Bailer	1	None	1	None	None
b	Bilge pump	1	None	None	None	None
c	Boathooks	2	2	1	1	1
d	Bucket	2	1	1	1	1
e	Compass and mounting	1	None	None	None	None
f	Ditty bag	1	None	None	None	None
g	Drinking cups	1	1	None	None	None
h	Fire extinguishers (motor-propelled lifeboats only)	2	2	2	2	2
l	First-aid Kit	1	None	None	None	None
j	Flashlight	1	None	1	None	None
k	Hatchets	2	None	2	1	1
l	Heaving line	2	None	None	None	None
m	Jackknife	1	1	None	None	None
n	Ladder, lifeboat, gunwale	1	None	None	None	None
o	Lantern	1	1	1	1	1
p	Lifeline	1	1	1	1	1
q	Life preservers	2	2	2	2	2
r	Locker	1	None	1	None	None
s	Mast and sail (oar-propelled lifeboats only)	1	None	None	None	None
t	Matches (boxes)	2	2	1	1	1
u	Milk, condensed (pounds per person)	1	None	None	None	None
v	Mirrors, signaling	2	None	None	None	None
w	Oars	2 1 unit	2 1 unit	2 1 unit	2 1 unit	2 1 unit
x	Oil, illuminating (quarts)	1	None	None	None	None
y	Oil, storm (gallons)	1	None	1	None	None
z	Painter	2	1	2	1	1
aa	Plugs	1	1	1	1	1
bb	Provisions (pounds per person)	2	None	None	None	None
cc	Rowlocks	2 1 unit	2 1 unit	2 1 unit	2 1 unit	2 1 unit
dd	Rudder and tiller	1	1	1	1	None
ee	Sea anchor	1	None	1	None	None
ff	Signals, distress, floating orange smoke	2	None	None	None	None
gg	Signals, distress, red hand flare	2 1 unit	None	2 1/2 unit	None	None
hh	Signals, distress, red parachute flare	2 1 unit	None	2 1/2 unit	None	None
ii	Tool kit (motor-propelled lifeboat only)	2 1 unit	2 1 unit	2 1 unit	2 1 unit	2 1 unit
jj	Water (quarts per person)	3	1	None	None	None
kk	Whistle, signaling	1	None	None	None	None
ll	Fishing kit	1	None	None	None	None
mm	Cover, protecting	1	None	None	None	None
nn	Signals, lifesaving	1	None	None	None	None

TABLE 94.20-10(a)—Continued

Letter ident.	Item	Ocean and coastwise		Great Lakes		Lakes, bays, and sounds; and rivers
		Other than seabarges	Sea-going barges	Vessels carry-cargo	Other	
oo .....	Desalting kit .....	*1	None	None	None	None

<sup>1</sup> Motor-propelled lifeboats, certified for 100 or more persons, shall be fitted with an additional hand bilge pump of an approved type or a power bilge pump.  
<sup>2</sup> For description of units, see § 94.20-15.  
<sup>3</sup> Vessels in coastwise service need only carry 1 unit for each 5 lifeboats or fraction thereof.  
<sup>4</sup> Optional equipment. See § 94.20-15(j) water.

**§ 94.20-15 Description of equipment for lifeboats.**

(a) *Bailer.* The bailer shall have a lanyard attached and shall be of sufficient size and suitable for bailing.

(b) *Bilge pump.* Bilge pumps shall be of an approved type, constructed in accordance with subpart 160.044 of subchapter Q (Specifications) of this chapter. They shall be of the size given in Table 94.20-15(b) depending upon the capacity of the lifeboat as determined by the six-tenths rule as described in § 160.035-8(b) of Subchapter Q (Specifications) of this chapter.

TABLE 94.20-15(b)

Capacity of lifeboat, cubic feet		Bilge pump size
Over	Not over	
330	700	1
700	.....	2
		3

(c) *Boathooks.* Boathooks shall be of the single hook ball-point type. Boathook handles shall be of clear grained white ash, or equivalent, and of a length and diameter as given in Table 94.20-15(c).

TABLE 94.20-15(c)

Length of lifeboat, feet		Boathook handles	
Over	Not over	Diameter, inches	Length, feet
	23	1½	8
23	29	1¾	10
29	.....	2	12

(d) *Bucket.* The bucket shall be of heavy gage galvanized iron, or other suitable corrosion-resistant metal, of not less than 2-gallon capacity, and shall have a 6-foot lanyard of 12-thread manila attached.

(e) *Compass and mounting.* The compass and mounting shall be of an approved type constructed in accordance with U.S. Coast Guard specification dated December 14, 1944.

(f) *Ditty bag.* The ditty bag shall consist of a canvas bag and shall contain a sailmaker's palm, needles, sail twine, marline, and marline spike.

(g) *Drinking cups.* Drinking cups shall be enamel coated or plastic, graduated in ounces, and be provided with lanyards 3 feet in length.

(h) *Fire extinguisher.* Fire extinguishers shall be of approved Type B-C, Size I (see § 95.50-5 of this subchapter). One shall be attached to each end of the lifeboat.

(i) *First-aid kit.* The first-aid kit shall be of an approved type, constructed and fitted in accordance with subpart 160.041 of subchapter Q (Specifications) of this chapter.

(j) *Flashlight.* The flashlight shall be a Type I or Type III flashlight constructed and marked in accordance with ASTM F1014-1986. Three spare cells and two spare bulbs, stowed in a watertight container, shall be provided with each flashlight. Batteries shall be replaced yearly during the annual stripping, cleaning, and overhaul of the lifeboats.

NOTE: Flashlights bearing a Coast Guard approval number may continue to be used in lifeboats and liferafts as long as they are in a serviceable condition.

(k) *Hatchet.* Hatchets shall be of an approved type, constructed in accordance with subpart 160.013 of subchapter Q (Specifications) of this chapter. They shall be attached to the lifeboat by individual lanyards and be readily available for use, one at each end of the lifeboat.

(l) *Heaving line.* The heaving line shall be of adequate strength, 10 fathoms in length, and 1 inch in circumference. It shall be of such quality as to be buoyant after 24 hours' submergence.

(m) *Jackknife.* The jackknife (with can opener) shall be of an approved type, constructed in accordance with subpart 160.043 of subchapter Q (Specifications) of this chapter.

(n) *Ladder, lifeboat gunwale.* The lifeboat gunwale ladder shall consist of 3 flat wood steps cut out for hand holds. The steps shall be spaced 12 inches apart and fastened with  $\frac{3}{8}$  inch diameter manila rope. Each rope end shall be tied inside the lifeboat at about amidships with the ladder stowed on top of the side benches and ready for immediate use. Other suitable devices may be specifically approved.

(o) *Lantern.* The lantern shall contain sufficient oil to burn for at least 9 hours, and shall be ready for immediate use.

(p) *Lifeline.* The lifeline shall be properly secured to both sides of the lifeboat along its entire length, festooned

in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The lifeline shall be of a size and strength not less than  $\frac{3}{8}$ -inch diameter manila. The bights shall hang to within 12 inches of the water when the lifeboat is light.

(q) *Life preservers.* Life preservers shall be of an approved type, constructed in accordance with the applicable subparts of subchapter Q (Specifications) of this chapter.

(r) *Locker.* The locker shall be suitable for the storage and preservation of the small items of equipment.

(s) *Mast and sail.* A unit, consisting of a standing lug sail together with the necessary spars and rigging, shall be provided in general agreement with Table 94.20-15(s). The sails shall be of good quality canvas, or other material acceptable to the Commandant, colored Indian Orange (Cable No. 70072, Standard Color Card of America). Rigging shall consist of galvanized wire rope not less than three-sixteenths inch in diameter. The mast and sail shall be protected by a suitable cover.



TABLE 94.20-15(s)

Length of lifeboat, feet	Not over	Area, square feet	Standing lug sail										Mast <sup>1</sup>		Yard <sup>1</sup>			
			Luff and head lengths		Leach length		Foot length		Clew to throat		Ounces per square yard	Commer- cial des- igna- tion No.	Length		Diam- eter, inches		Length	
			FL	In.	FL	In.	FL	In.	FL	In.			FL	In.	FL	In.	FL	In.
17	58	5	11	12	1	8	10	10	10	14.35	10	11	2	3	6	11	2	
19	74	8	6	13	8	10	0	12	2	14.35	10	12	6	3	7	8	2	
21	93	7	5	15	1	11	2	13	8	14.35	10	13	10	3 1/2	8	5	2 1/2	
23	113	6	3	16	1	12	4	15	1	14.35	10	15	2	3 1/2	9	3	2 1/2	
25	135	9	0	18	6	13	6	16	6	14.35	10	18	6	4	10	0	3	
27	158	9	9	20	0	14	7	17	10	17.50	8	17	10	4	10	9	3	
29	181	10	5	21	5	15	7	19	1	17.50	8	19	2	4 1/2	11	5	3 1/4	
31	203	11	0	22	8	16	6	20	3	20.74	6	20	6	4 1/2	12	0	3 1/4	
	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

<sup>1</sup> Mast lengths measured from heel to center of upper halyard sheave. Mast diameters measured at throat. Mast and yard shall be of clear-grained spruce, fir, or equivalent.  
<sup>2</sup> Subject to special consideration.

(t) *Matches.* A box of friction matches in a watertight container stowed in an equipment locker or secured to the underside of the stern thwart if no locker is fitted.

(u) *Milk, condensed.* One pound of condensed milk shall be provided for each person the lifeboat is certified to carry, to be stowed in lockers or other compartments providing suitable protection.

(v) *Mirrors, signaling.* Signaling mirrors shall be of an approved type.

(w) *Oars.* A unit, consisting of a complement of rowing oars and steering oar, shall be provided for each lifeboat in accordance with Table 94.20-15(w), except that motor-propelled and hand-propelled lifeboats need only be equipped with four rowing oars and one steering oar. In any case, the emergency lifeboats shall be provided with the full complement of oars prescribed by the table. All oars shall be buoyant.

TABLE 94.20-15(w)

Length of lifeboat, feet		Number of oars		Length of oars, feet	
Over	Not over	Rowing	Steering	Rowing	Steering
	15	4	1	8	9
15	19	6	1	10	11
19	21	6	1	11	12
21	23	6	1	12	13
23	25	8	1	13	14
25	27	8	1	14	15
27	.....	8	1	15	16

(x) *Oil, illuminating.* One quart of illuminating oil shall be provided in a metal container.

(y) *Oil, storm.* One gallon of vegetable, fish, or animal oil shall be provided in a suitable metal container so constructed as to permit a controlled distribution of oil on the water, and so arranged that it can be attached to the sea anchor.

(z) *Painter.* Painters shall be of manila rope not less than 3/4 inches in circumference, or equivalent, and of a length not less than 3 times the distance between the deck on which the lifeboat is stowed and the light draft of the vessel. For lifeboats in vessels on ocean, coastwise or Great Lakes service one of the painters shall have a long eye splice and be attached to the thwart with a toggle. The other painter shall be attached to the stem.

(aa) *Plug.* The automatic drain required in the lifeboat shall be provided with a cap or plug attached to the lifeboat by a suitable chain.

(bb) *Provisions.* Two pounds of hard bread or its approved equivalent shall be provided for each person the lifeboat is certified to carry. The provisions shall be packaged in hermetically sealed cans of an approved type. The cans shall be stowed in lockers or other compartments providing suitable protection.

(cc) *Rowlocks.* A unit, consisting of sufficient rowlocks and rowlock sockets for each oar required by Table 94.20-15(w) plus 2 additional rowlocks. The rowlocks shall be attached to the lifeboat by separate chains so as to be available for immediate use, except that the 2 additional spare rowlocks shall be carried in the equipment locker or stowed near the stern if no locker is fitted. The rowlocks and rowlock sockets shall be distributed so as to provide the maximum amount of single banked oars practicable.

(dd) *Rudder and tiller.* The rudder and tiller shall be constructed in accordance with § 160.035-3(t) of subchapter Q (Specifications) of this chapter.

(ee) *Sea anchor.* The sea anchor shall be of an approved type.

(ff) *Signals, distress, floating orange smoke.* Two approved floating orange smoke distress signals, constructed in accordance with subpart 160.022 of subchapter Q (Specifications) of this chapter. The service use of this equipment shall be limited to three years from date of manufacture, and replacement shall be made no later than the first annual stripping, cleaning, and overhaul of the lifeboat after the date of expiration.

(gg) *Signals, distress, red hand flare.* A unit, consisting of twelve approved hand red flare distress signals in a watertight container, constructed in accordance with subpart 160.021 or subpart 160.023 of subchapter Q (Specifications) of this chapter. The service use of this equipment shall be limited to three years from date of manufacture, and replacement shall be no later than the first annual stripping, cleaning, and overhaul of the lifeboat after the date of expiration.

(hh) *Signals, distress, red parachute flare.* A unit, consisting of twelve parachute red flare distress signals with an approved means of projecting them, all contained in a portable watertight container; or twelve approved hand-held rocket-propelled parachute red flare distress signals contained in a portable watertight container. Construction shall be in accordance with subparts 160.024 and 160.028 or subpart 160.036 of subchapter Q (Specifications) of this chapter. The service use of this equipment shall be limited to three years from date of manufacture, and replacement shall be no later than the first annual stripping, cleaning, and overhaul of the lifeboat after the date of expiration.

(ii) *Tool kit.* The tool kit shall consist of at least the following tools contained in a suitable container:

- (1) One 12-ounce ball peen hammer.
- (2) One screwdriver with 6-inch blade.
- (3) One pair 8-inch slip joint pliers.
- (4) One 8-inch adjustable end wrench.

(jj) *Water.* (1) For each person the lifeboat is certified to carry, there shall be provided 3 quarts of drinking water consisting of nine approved hermetically sealed containers per person, constructed and filled in accordance with subpart 160.026 of subchapter Q (Specifications) of this chapter. The service life of this equipment shall be limited to 5 years from date of packing, and replacement shall be made no later than the first annual stripping, cleaning, and overhaul of the lifeboat after the date of expiration. Approved desalting kits capable of producing an equal amount of drinking water may be substituted for not more than one third of the drinking water required to be carried.

(2) The drinking water containers shall be stowed in drinking water

tanks, lockers, or other compartments providing suitable protection.

(kk) *Whistle, signaling.* The whistle shall be of the ball-type, of corrosion-resistant construction, with a 3-foot lanyard attached, and in good working order.

(ll) *Fishing kit.* The fishing kit shall be of an approved type constructed in accordance with subpart 160.061 of subchapter Q (Specifications) of this chapter.

(mm) *Cover, protecting.* The protecting cover shall be of a highly visible color, and capable of protecting the occupants against injury by exposure.

(nn) *Table of lifesaving signals.* The table shall be in accordance with the provisions of chapter V, Regulation 16, of the International Convention for Safety of Life at Sea, 1974, and shall be printed on water resistant paper.

(oo) *Desalting kit.* One or more approved desalting kits may be used as a substitute for one third of the required amount of drinking water per person, and shall be constructed in accordance with subpart 160.058 of subchapter Q (Specifications) of this chapter.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5719, Apr. 12, 1968; CGD 82-042, 53 FR 17705, May 18, 1988; CGD 90-008, 55 FR 30662, July 28, 1990]

**§ 94.20-20 Required equipment for life-rafts.**

(a) The life rafts for all vessels shall be equipped in accordance with Table 94.20-20(a). For a description of the items contained in this table and the units comprising the items, see the applicable paragraphs of § 94.20-25. The letter identification prefixing the item in the table corresponds to the paragraph designation in § 94.20-25.

TABLE 94.20-20(a)

Letter identification	Item identification	Ocean and coastwise	Great Lakes		Lakes, bays, and sounds; and rivers
			Vessels carrying cargo	Other vessels	
a	Boathook	1	1	1	1
b	Drinking cups	1	None	None	None
c	Jackknife	1	None	None	None
d	Lifeline	11	11	11	11
e	Matches (boxes)	1	1	None	None
f	Mirrors, signaling	2	None	None	None
g	Cars	2 1 unit	2 1 unit	2 1 unit	2 1 unit

TABLE 94.20-20(a)—Continued

Letter identification	Item identification	Ocean and coastwise	Great Lakes		Lakes, bays, and sounds; and rivers
			Vessels carrying cargo	Other vessels	
h	Oil, storm (gallons)	1	1	None	None
l	Painter	1	1	1	1
j	Provisions (pounds per person)	2	None	None	None
k	Rowlocks	2 1 unit	2 1 unit	2 1 unit	2 1 unit
l	Sea anchor	1	1	None	None
m	Signals, distress	2 1 unit	2 1 unit	None	None
n	Water (quarts per person)	1	None	None	None
o	Water light	1	1	4 1	None

<sup>1</sup> Not required on Type A liferafts.

<sup>2</sup> For description of units see § 94.20-25.

<sup>3</sup> 1 unit here means 6 hand red flare distress signals and 6 parachute red flare distress signals with an approved means of projecting them.

<sup>4</sup> Required only on towing vessels of 300 gross tons and over.

(b) Inflatable liferafts shall be equipped with ocean service equipment for vessels on ocean and coastwise routes and with limited service equipment for vessels on Great Lakes, lakes, bays, sounds, and river routes in accordance with subpart 160.051 of subchapter Q (Specifications) of this chapter.

NOTE: Subpart 160.051 of subchapter Q (Specifications) of this chapter requires the servicing of inflatable liferafts at approved servicing facilities. Included in the servicing at an approved servicing facility is a complete inspection of the required equipment by a marine inspector.

**§ 94.20-25 Description of equipment for liferafts.**

(a) *Boathooks.* Boathooks shall be of the single hook ball point type. Boathook handles shall be of clear grained white ash, or equivalent, not less than 8 feet long and 1½ inches in diameter.

(b) *Drinking cups.* Drinking cups shall be enameled and provided with ½-inch cotton lanyards 3 feet in length.

(c) *Jackknife.* The jackknife (with can opener) shall be of an approved type, constructed in accordance with subpart 160.043 of subchapter Q (Specifications) of this chapter.

(d) *Lifeline.* The lifeline shall be properly secured around the sides and ends of the liferaft, festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The lifeline shall be of a size and

strength not less than ¾-inch diameter manila.

(e) *Matches.* A box of friction matches in a watertight container.

(f) *Mirrors, signaling.* Signaling mirrors shall be of an approved type.

(g) *Oars.* A unit, consisting of 4 rowing oars and one steering oar not less than 8 feet in length shall be provided for life rafts for 7 persons or more. For life rafts for 6 persons or less, a unit shall consist of 2 paddles not less than 5 feet in length.

(h) *Oil, storm.* One gallon of vegetable, fish, or animal oil shall be provided in a suitable metal container so constructed as to permit a controlled distribution of oil on the water, and so arranged that it can be attached to the sea anchor.

(i) *Painter.* Painters shall be of manila rope not less than 2¾ inches in circumference and of a length not less than 3 times the distance between the deck on which the liferafts are stowed and the light draft of the vessel.

(j) *Provisions.* Two pounds of hard bread or its approved equivalent shall be provided for each person the life-raft is certified to carry. The provisions shall be packaged in hermetically sealed cans of an approved type. The cans shall be stowed in compartments providing suitable protection.

(k) *Rowlocks.* A unit consisting of 5 rowlocks attached to the liferaft by separate chains and ready for immediate use, together with proper rowlock sockets so arranged as to provide 4 rowing positions and one steering position with the liferaft floating either

side up. Rowlocks and rowlock sockets are not required on life rafts for 6 persons or less.

(l) *Sea anchor.* The sea anchor shall be constructed of good quality canvas or other satisfactory material, and shall be not less than 2 feet in diameter.

(m) *Signals, distress.* A unit, consisting of equipment as specified in paragraphs (m) (1) to (3) of this section. The service use of this equipment shall be limited to three years from date of manufacture, and replacement shall be made no later than the first annual inspection of the vessel after the date of expiration.

(1) Twelve approved hand red flare distress signals in a watertight container and two approved floating orange smoke distress signals, constructed in accordance with subparts 160.021 and 160.022 of subchapter Q (Specifications) of this chapter, or

(2) Twelve approved hand red flare distress signals in a watertight container and 12 approved hand orange smoke distress signals, constructed in accordance with subparts 160.021 and 160.037 of subchapter Q (Specifications) of this chapter, or

(3) Twelve approved hand combination flare and smoke distress signals, constructed in accordance with subpart 160.023 of subchapter Q (Specifications) of this chapter.

(n) *Water.* (1) For each person the life-raft is certified to carry, there shall be provided one quart of drinking water consisting of three approved hermetically sealed containers per person, constructed and filled in accordance with subpart 160.026 of subchapter Q (Specifications) of this chapter. The service life of this equipment shall be limited to five years from date of packing, and replacement shall be made no later than the first annual stripping, cleaning, and overhaul of the liferaft after the date of expiration.

(2) The drinking water containers shall be stowed in compartments providing suitable protection.

(o) *Water light.* (1) The water light must be: (i) Of an approved automatic electric type, constructed in accordance with subpart 161.010 of this chapter, except as allowed under paragraph (o)(2) of this section; and

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

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

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17494, Oct. 29, 1969; CGD 79-165a, 45 FR 64187, Sept. 29, 1980]

**§ 94.20-30 Required equipment for lifefloats and buoyant apparatus.**

(a) The lifefloats and buoyant apparatus for all vessels shall be equipped in accordance with Table 94.20-30(a). For a description of the items contained in this table, and the units comprising the items, see the applicable paragraphs of § 94.20-35. The letter identification prefixing the item in the table corresponds to the paragraph designation in § 94.20-35.

TABLE 94.20-30(a)

Letter Identification	Item	Number required for each lifefloat and buoyant apparatus		
		Ocean and coast-wise	Great Lakes	Lakes, bays, sounds, and rivers
a .....	Boathook <sup>1</sup> .....	1	1	.....
b .....	Lifeline .....	1	1	.....
c .....	Paddles <sup>1</sup> .....	2	2	.....
d .....	Painter .....	1	1	.....
e .....	Water light <sup>2</sup> .....	1	1	None

<sup>1</sup> Buoyant apparatus need not be equipped with boathook or paddles.

<sup>2</sup> Equipment for 24 persons or less not required to have a water light.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 63-65, 33 FR 19986, Dec. 28, 1968]

**§ 94.20-35 Description of equipment for lifefloats and buoyant apparatus.**

(a) *Boathook.* Boathooks shall be of the single hook ball point type. Boathook handles shall be of clear grained white ash, or equivalent, not less than 6 feet long and 1½ inches in diameter.

(b) *Lifeline.* The lifeline shall be properly secured around the sides and ends of the lifefloat or buoyant apparatus,

festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The life-line shall be of a size and strength not less than 3/8-inch diameter manila.

(c) *Paddles*. Paddles shall be not less than 5 feet long.

(d) *Painter*. The painter must—

(1) Be at least 30 m (100 ft.) long, but not less than 3 times the distance between the deck on which the life floats and buoyant apparatus are stowed and the light draft of the vessel.

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

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

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

(e) *Water light*. (1) The water light must be: (i) Of an approved automatic electric type, constructed in accordance with Subpart 161.010 of this chapter, except as allowed under paragraph (e)(2) of this section; and (ii) Attached to the life float or buoyant apparatus by a 12-thread manila or equivalent synthetic lanyard, at least 5.5 meters (18 feet) in length.

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

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17484, Oct. 29, 1969; CGD 79-165a, 45 FR 64187, Sept. 29, 1980; CGD 79-167, 47 FR 41372, Sept. 20, 1982]

#### § 94.20-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 94.20-5 through 94.20-35 shall be complied with insofar as the number of

items of equipment and the method of stowage of the equipment is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 94.20-5 through 94.20-35 may be continued in service so long as they are maintained in a good condition to the satisfaction of the Officer in Charge, Marine Inspection. All new installations or replacements shall meet the applicable specifications or requirements in this part.

(2) Lifeboats previously approved without automatic drain plugs shall have two plugs or caps attached to the lifeboat by separate chains.

(3) Decked lifeboats shall have no drain holes or plugs, but shall be equipped with two bilge pumps.

(4) On vessels certificated for ocean or coastwise service and contracted for prior to November 19, 1952, unless other approved means are provided to achieve the same purpose, three 1/2-inch-diameter manila grablines shall be fitted extending from gunwale to gunwale under the keel to enable persons to cling to and climb upon the upturned lifeboat. The ends of each grabline shall be securely attached to the side benches or other permanent part of the lifeboat and each grabline shall be made up with figure eight knots spaced approximately 18 inches apart in order to provide hand grips. Means shall be provided for taking up any slack in the grablines.

#### Subpart 94.25—Davits for Lifeboats

##### § 94.25-1 Application.

(a) The provisions of this subpart, with the exception of § 94.25-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 94.25-90.

##### § 94.25-5 General.

(a) All gravity and mechanical type davits shall be of an approved type, constructed in accordance with subpart 160.032 of subchapter Q (Specifications) of this chapter.

(b) Davits for lifeboats weighing in excess of 5,000 pounds when fully equipped (but without persons) shall be of the gravity type.

(c) All davits shall be so arranged that the lifeboats do not require lifting prior to being swung out, except on small vessels where such requirement is unreasonable or impracticable in the opinion of the Officer in Charge, Marine Inspection.

(d) All davits and necessary gear shall be such as to meet the requirements for the installation test set forth in subpart 94.35. The design, arrangements, and installation shall be such as to preclude undue delay in getting lifeboats into the water, and shall be of such strength that the lifeboats can be turned out manned by a launching crew and then safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way and with a 10-degree trim.

(e) Radial davits, where permitted, shall comply with the following requirements:

(1) They shall be fitted with means to prevent them from being jerked from their sockets.

(2) They shall maintain a factor of safety of six based on the weight of the fully equipped and loaded lifeboat, except that the weight of the fully equipped lifeboat alone may be used where the lifeboat is launched before being loaded with people.

(3) They shall be fitted with hand gear of sufficient power to insure that the boat can be turned out against a maximum list of 15 degrees.

(4) They shall be shop tested and show no permanent set or undue stress when subjected to a load equal to 2.2 times the working load. In addition, they shall be shop tested with a load equal to 1.1 times the weight of the fully equipped lifeboat with the davit set up to simulate a 15-degree list inboard, and it shall be determined that the hand gear can adequately handle the load in this condition.

(f) Davits shall be so disposed on one or more decks as to permit the lifeboats placed under them to be safely lowered without interference from the operation of any other davits.

(g) On a vessel on which inflatable liferafts have been substituted for lifeboats, a launching device for each lifeboat to be used for rescue purposes shall be installed. Radial type davits or

other means may be used in sheltered waters if acceptable to the Officer in Charge, Marine Inspection.

**§94.25-10 Requirements for vessels in ocean or coastwise service.**

(a) All vessels shall be fitted with a set of approved gravity or mechanical davits for each lifeboat carried except that on small vessels radial type davits or other means may be used if specifically approved by the Commandant.

(b) All davit installations shall have 2 lifelines fitted to a davit span. The lifelines shall be of such length as to reach the water at the lightest sea going draft with the vessel listed 15 degrees either way.

**§94.25-15 Requirements for vessels in Great Lakes, lakes, bays, and sounds, or river service.**

(a) All vessels shall be fitted with a set of approved gravity or mechanical davits for each lifeboat carried, except that on small vessels, radial type davits or other means may be used if specifically approved by the Commandant.

(b) For vessels in Great Lakes service, all davit installations shall have 2 lifelines fitted to a davit span. The lifelines shall be of such length as to reach the water at the lightest draft with the vessel listed 15 degrees either way.

**§94.25-90 Vessels contracted for prior to May 26, 1965.**

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§94.25-5 through 94.25-15 shall be complied with insofar as the number and general type of equipment is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§94.25-5 through 94.25-15 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 made to the same standards as the original installation. However, all new installations or major

replacements shall meet the applicable specifications or requirements.

(2) On vessels the keels of which were laid after September 1, 1941, all davits for lifeboats weighing in excess of 5,000 pounds when fully equipped (but without persons) shall be of the gravity type.

**Subpart 94.30—Lifeboat Winches**

**§94.30-1 Application.**

(a) The provisions of this subpart, with the exception of §94.30-90, 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 §94.30-90.

**§94.30-5 General.**

(a) All lifeboat winches shall be of an approved type, constructed in accordance with subpart 160.015 of subchapter Q (Specifications) of this chapter.

(b) Where ice conditions are likely to be encountered, suitable fabric covers shall be provided for all lifeboat winches, so fitted over exposed mechanism, that ice formations may be readily broken adrift when necessary to operate the winch.

(c) Where lifeboat winches are used, wire falls shall be employed.

**§94.30-10 Number and type required.**

(a) Lifeboat winches shall be fitted for each set of davits on all vessels in ocean or coastwise service where the height of the deck on which lifeboats are carried exceeds 20 feet from the lightest seagoing draft.

(b) Lifeboat winches shall be used in all cases where gravity type davits are employed.

(c) Lifeboat winches for use with gravity davits shall have grooved drums of such size that there will be only one layer of wire on the drums. Lifeboat winches for use with mechanical davits need not have grooved drums, and may be designed to take more than one layer of wire.

**§94.30-15 Installation.**

(a) Lifeboat winches shall be so located that the operator can observe the movement of the lifeboat during the lowering operation. In addition, any

electrical controls provided shall meet the requirements of subchapter J (Electrical Engineering) of this chapter.

(b) The lead of the falls to the lifeboat winches and length and size of wire shall be in accordance with subpart 94.33.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGD 74-125A, 47 FR 15232, Apr. 8, 1982]

**§94.30-90 Vessels contracted for prior to November 19, 1952.**

(a) Vessels contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§94.30-5 through 94.30-15 with the exception of §94.30-10(a), shall be complied with insofar as the number and general type of equipment is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§94.30-5 through 94.30-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. However, all new installations or major replacements shall meet the applicable specifications or requirements.

(2) Existing arrangements previously approved, but not meeting the requirements of §94.30-15(a), need not be changed. However, new installations or major alterations should conform with such requirements where reasonable and practicable.

(3) Where lifeboat winches are used with gravity davits, the installation shall comply with the requirements contained in §160.015-3(k) of Subchapter Q (Specifications) of this chapter for lifeboat winches.

**Subpart 94.33—Blocks and Falls for Lifeboats**

**§94.33-1 Application.**

(a) The provisions of this subpart, with the exception of §94.33-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of §94.33-90.



**§94.33-5 General.**

(a) All blocks, falls, fairleads, padeyes, shackles, links, fastenings, etc., used in connection with lifeboat gear shall be designed with a minimum factor of safety of six, based on the maximum working load.

(b) Falls shall be of such length that the lifeboat may be lowered to the water with the vessel at its lightest draft, listed 15 degrees either way.

(c) Falls, where exposed and subject to damage or fouling, shall be suitably protected.

(d) Such blocks or other fittings shall be fitted as are necessary to permit the falls to lead fair in all positions of the davits.

(e) Means for lubrication shall be provided for all moving parts of blocks, sheaves, fairleads, etc.

**§94.33-10 Installations where lifeboat winches are used.**

(a) All falls shall be of wire rope.

(b) Wire rope falls of 6 × 19 regular lay filler wire construction, prelubricated at the factory with suitable neutral wire rope lubricant, shall be accepted as standard. Any other wire rope, superior or equal to this minimum standard may be used if specifically approved.

(c) Not more than two-part falls may be used, except in special cases where three-part falls may be permitted by the Commandant.

(d) The lead sheaves to the drums shall be located so as to provide fleet angles of not more than 8 degrees for grooved drums and not more than 4 degrees for nongrooved drums. By fleet angle is meant the angle included between an imaginary line from the lead sheave perpendicular to the axis of the drum and the line formed by the wire rope when led from the lead sheave to either extremity of the drum.

(e) Sheaves shall have a diameter at the base of the groove at least equal to 12 times the diameter of the wire rope.

**§94.33-15 Installations where lifeboat winches are not used.**

(a) All falls shall be of manila rope or equivalent. Wire rope may not be used.

(b) All vessels of over 1,000 gross tons shall be provided with covered tubs, boxes, or reels for the stowage and pro-

tection of the falls, and cruciform bits shall be provided for properly lowering the lifeboats. Vessels of 1,000 gross tons and less shall have the falls protected from ice and ready for immediate use, and shall be provided with suitable lowering bits or cleats.

(c) There shall be ample clearance between the cheeks of all blocks. The width between the cheeks shall be ½ inch greater than the diameter of new rope when rope of ¾ inches circumference or greater is used. Blocks for smaller rope shall be designed with proportional clearances.

**§94.33-90 Vessels contracted for prior to May 26, 1965.**

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§94.33-5 through 94.33-15, as applicable, shall be complied with insofar as the general type of equipment is concerned. Existing equipment previously approved, but not meeting the detailed requirements of §§94.33-5 through 94.33-15 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 made to the same standards as the original installation. However, all new installations or major replacements shall meet the applicable requirements.

**Subpart 94.35—Installation of Lifeboats, Davits, and Winches****§94.35-1 Application.**

(a) The provisions of this subpart shall apply to all installations contracted for on or after November 19, 1952, except as set forth in §97.15-45(c) of this subchapter.

**§94.35-5 Tests and examinations.**

(a) Upon completion of installation of lifeboats, davits, or winches, tests and examinations as required by this section shall be made to the satisfaction of the inspector before the vessel may be navigated.

(b) The lifeboat shall be swung out from the chocks and lowered to the em-

barkation deck. At this point the lifeboat shall be loaded with dead-weight equivalent to the number of persons allowed (165 pounds per person) together with weight of equipment, plus 10 percent of the total load including the weight of the lifeboat. No persons shall be permitted in the lifeboat while it is being loaded or lowered. The lifeboat shall then be lowered to the water and disengaged from the falls.

(1) None of the equipment or parts thereof nor deck connections shall show signs of permanent set or excessive deflection.

(2) Mechanical and radial type davits shall be capable of being swung out without lifting the lifeboat, except on small vessels where such requirement is unreasonable or impracticable in the opinion of the Officer in Charge, Marine Inspection.

(3) The falls shall be of sufficient length to lower the lifeboat as required by §94.33-5(b).

(4) Where lifeboat winches are used, the following additional determinations shall be made:

(i) During lowering, the lifeboat shall be stopped at intervals of approximately six feet by the action of the counterweight alone. The counterweight shall be capable of stopping and holding the lifeboat. The brake action shall be smooth, but positive.

(ii) Brakes exposed to the weather shall be tested under the load conditions with the braking surfaces both wet and dry.

(iii) The governor brake shall be capable of controlling the speed of lowering of the fully equipped lifeboat with its complement of persons on board to not more than 120 feet per minute. In addition, the speed of lowering of the fully equipped lifeboat without its complement of persons shall be not less than 40 feet per minute.

## Subpart 94.40—Life Preservers

### §94.40-1 Application.

(a) The provisions of this subpart, with the exception of §94.40-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of §94.40-90.

### §94.40-5 General.

(a) All life preservers shall be of an approved type, constructed in accordance with subparts 160.002, 160.005, or 160.055 of subchapter Q (Specifications) of this chapter.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGD 82-075a, 49 FR 4484, Feb. 7, 1984]

### §94.40-10 Number required.

(a) Except as specifically modified by paragraph (b) of this section, all vessels shall be provided with an approved life preserver for each person on board. An additional number of life preservers shall be provided for the personnel on watch in the engineroom and pilot-house, and at the bow look-out.

(b) For vessels in Great Lakes service of 3000 tons or over having berthing and/or working spaces forward widely separated from messing or recreational spaces aft there shall be provided in addition to those life preservers required by paragraph (a) of this section sufficient additional life preservers for 50 percent of the total number of persons on board.

(c) When children are carried, a suitable number of children's life preservers shall be provided.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 68-33, 31 FR 15284, Dec. 6, 1966]

### §94.40-15 Distribution and stowage.

(a) *Distribution.* (1) Life preservers shall be distributed throughout the cabins, staterooms, berths, and other places convenient for each person on board. The stowage of the additional number of life preservers required by §94.40-10(a) shall be such that they are readily accessible to personnel on watch in the engineroom and pilot-house, and at the bow lookout.

(2) The additional 50 percent life preservers required by §94.40-10(b) shall be properly stowed in the vicinity of the lifeboats.

(b) *Stowage.* (1) Lockers, boxes, and closets in which life preservers are stowed shall not be capable of being locked, shall be plainly marked, and the life preservers contained therein shall be readily available.

(2) Life preservers stowed overhead shall be so supported that they can be quickly released and distributed. Where life preservers are stowed at a height greater than 7 feet from the deck below, efficient means shall be provided for their immediate release and distribution to be operated by persons standing on the deck.

[CGFR 65-50, 30 FR 16389, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15284, Dec. 6, 1966]

**§ 94.40-25 Retroreflective material.**

(a) Each life preserver carried on a vessel after June 30, 1980, must have at least 200 sq. cm (31 sq. in.) of retroreflective material attached on its front side, at least 200 sq. cm on its back side, and at least 200 sq. cm of material on each of its reversible sides.

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

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

[CGD 76-028, 44 FR 38784, July 2, 1979]

**§ 94.40-90 Vessels contracted for prior to May 26, 1965.**

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 94.40-5 through 94.40-15 shall be complied with insofar as the number of items of equipment and the method of stowage is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 94.40-5 through 94.40-15 may be continued in service so long as they are serviceable and in good condition to the satisfaction of the Officer in Charge, Marine Inspection, except that:

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

(2) All new installations or replacements shall meet the applicable specifications or requirements, except that:

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

**Subpart 94.41—Exposure Suits**

SOURCE: CGD 76-003a, 45 FR 24477, Apr. 10, 1980; 45 FR 29588, May 5, 1980, unless otherwise noted.

**§ 94.41-1 Applicability.**

This subpart applies to each vessel in ocean, coastwise, or Great Lakes service, except those—

(a) Operating on routes between 32 degrees North and 32 degrees South latitude in the Atlantic Ocean, or

(b) Operating on routes between 35 degrees North and 35 degrees South latitude in all other waters.

[CGD 84-090a, 49 FR 50725, Dec. 31, 1984]

**§ 94.41-5 Number and type required.**

(a) Each vessel must carry an exposure suit for each person on board.

(b) In addition to the exposure suits required by paragraph (a) of this section, the engine room, pilothouse, bow lookout, and each work station must have enough exposure suits to equal the number of persons normally on watch in, or assigned to, the station at one time. However, an exposure suit need not be provided at a watch or work station for a person whose cabin, stateroom, or berthing area (and the exposure suits stowed in that location) is readily accessible to the work station.

(c) Except as provided by paragraph (d) of this section, each exposure suit

on a vessel must be of a type approved under Subpart 160.071 of this chapter.

(d) An exposure suit in use on a vessel before November 1, 1980 may remain in use on the vessel in place of an exposure suit approved under Subpart 160.071 of this chapter if:

- (1) It is similar or identical to an approved suit, and
- (2) It is in serviceable condition.

[CGD 76-003a, 45 FR 24477, Apr. 10, 1980; 45 FR 29588, May 5, 1980; CGD 82-075a, 49 FR 4485, Feb. 7, 1984]

#### §94.41-10 Stowage containers.

(a) No stowage container for exposure suits may be capable of being locked.

(b) Exposure suits stowed overhead must be supported in a manner that allows quick release for distribution.

(c) If exposure suits are stowed more than 2.1 m (7 ft.) above the deck, a means for quick release must be provided and must be capable of operation from the deck.

### Subpart 94.42—Personal Flotation Device Lights and Whistles

SOURCE: CGD 82-075a, 49 FR 4485, Feb. 7, 1984, unless otherwise noted.

#### §94.42-1 Personal flotation device lights.

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

(b) Each personal flotation device light required by this section must be securely attached to the front shoulder area of the life preserver or exposure suit.

#### §94.42-5 Whistles.

(a) Each life preserver and each exposure suit on vessels on an international voyage must have a whistle of the ball type or multi-tone type, of corrosion resistant construction, and in good working order.

(b) The whistle must be attached to the life preserver or exposure suit by a lanyard without hooks, snaps, clips, etc., that is long enough to permit the whistle to reach the mouth of the wearer. If the lanyard allows the whis-

tle to hang below the waist of the wearer, the whistle must be stowed in a pocket on the life preserver or exposure suit, or with the lanyard coiled and stopped off.

### Subpart 94.43—Ring Life Buoys and Water Lights

#### §94.43-1 Application.

(a) The provisions of this subpart, with the exception of §94.43-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of §94.43-90.

#### §94.43-5 General.

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

(b) Each water light must be of an approved automatic electric type, constructed in accordance with subpart 161.010 of this chapter; except a water light constructed in accordance with former subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972 may be retained in an existing installation as long as it is maintained in good condition.

(c) A self-activating smoke signal—

(1) Must be approved in accordance with subpart 160.057 of this chapter; and

(2) May not be more than 3 years older than the stamped date of manufacture.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 72-45, 37 FR 5031, Mar. 9, 1972; CGD 79-165a, 45 FR 64188, Sept. 29, 1980; CGD 80-155a, 47 FR 10559, Mar. 11, 1982]

#### §94.43-10 Number required.

(a) The minimum number of approved 30-inch ring life buoys and the minimum number of which shall have water lights attached, shall be in accordance with Table 94.43-10(a): *Provided*, That unmanned barges are exempt from this section.

(b) One of the ring life buoys on each side of the vessel shall have secured to it a line at least 15 fathoms in length.

On vessels on an international voyage, the line shall be of a buoyant type.

TABLE 94.43-10(a)

Length of vessel in feet	Ocean <sup>1 2</sup>		All services other than ocean <sup>2</sup>	
	Minimum number of ring life buoys	Minimum number of ring life buoys in column 2 which shall have water lights attached	Minimum number of ring life buoys	Minimum number of ring life buoys in column 4 which shall have water lights attached
Column 1	Column 2	Column 3	Column 4	Column 5
Under 100 .....	3	2	2	0
100 and under 200 .....	6	3	4	2
200 and under 300 .....	8	8	8	2
300 and under 400 .....	12	8	12	4
400 and under 600 .....	18	9	18	9
600 and under 800 .....	24	12	24	12
800 and over .....	30	15	30	15

<sup>1</sup> Manned barges shall be equipped with 1 ring life buoy at each end of the vessel.

<sup>2</sup> Vessels 500 gross tons and over on an international voyage, regardless of length, shall carry at least 8 lifebuoys; half of which shall have water lights attached.

(c) On vessels on an international voyage, at least two of the ring life buoys with water lights attached as required by Table 94.43-10(a) shall also be provided with an approved self-activated smoke signal and shall be capable of quick release from the bridge.

(d) On vessels on an international voyage, the ring life buoys required by this section shall be orange in color.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19987, Dec. 28, 1968]

**§ 94.43-15 Distribution and securing.**

(a) All ring life buoys shall be placed so as to be readily accessible to the persons on board, and their positions plainly indicated so as to be known to the persons concerned.

(b) The ring life buoys shall always be capable of being cast loose, and shall not be permanently secured in any way.

**§ 94.43-90 Vessels contracted for prior to May 26, 1965.**

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 94.43-5 through 94.43-15 shall be complied with insofar as the number of items of equipment and the method of

stowage is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 94.43-5 through 94.43-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. All new installations or replacements shall meet the applicable specifications or requirements in this subpart.

(2) Any vessel attending offshore petroleum operations is not permitted to carry water lights which produce an open flame when used or actuated, and such lights shall be removed from the vessel.

[CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGFR 66-72, 32 FR 384, Jan. 13, 1967]

**Subpart 94.45—Line-Throwing Appliances**

**§ 94.45-1 Application.**

(a) The provisions of this subpart, with the exception of § 94.45-90, shall apply to all mechanically propelled vessels of 150 gross tons and over in ocean or coastwise service. Such vessels contracted for prior to November 19, 1952, shall meet the requirements of § 94.45-90.

**§ 94.45-5 General.**

(a) Line-throwing appliances of the impulse-projected rocket type, and the equipment auxiliary thereto, shall be of an approved type, constructed in accordance with subpart 160.040 of subchapter Q (Specifications) of this chapter. The service use of rockets shall be limited to a period of four years from date of manufacture, and replacement of out-dated items shall be made at the first port of arrival in the United States where such rockets are available, except that replacement shall be made in all cases within twelve months after the date of expiration.

(b) Line-throwing appliances of the shoulder-gun type, and the equipment auxiliary thereto, shall be of an approved type, constructed in accordance with subpart 160.031 of subchapter Q (Specifications) of this chapter.

**§ 94.45-10 Type required.**

(a) All vessels shall be fitted with an approved line-throwing appliance of the impulse-projected rocket type. However, vessels of less than 500 gross tons may substitute a line-throwing appliance of the shoulder-gun type.

**§ 94.45-15 Equipment for line-throwing appliances.**

(a) The following equipment must be carried for each impulse-projected, rocket-type-line-throwing appliance required by this subpart. The equipment must be stowed with the appliance in a case or box, except for the service lines and the auxiliary line, which may be stowed in an accessible location nearby:

(1) Four rockets, two of which shall be of the buoyant type.

(2) Four service lines that—

(i) Are fabricated of the material specified in the approval of the appliance carried;

(ii) Have a length not less than that specified in the approval of the appliance carried;

(iii) Have a diameter from  $\frac{7}{32}$  to  $\frac{9}{32}$  inch;

(iv) Have a breaking strength of at least 500 pounds; and

(v) Are to be kept in a faking box or reel.

(3) Four prime ejector cartridges.

(4) One cleaning brush, one can of oil, and 12 wiping patches.

(5) One set of instructions from the manufacturer.

(6) One auxiliary line that is fabricated of—

(i) Manila and is at least 1,500 feet long and 3 inches or more in circumference; or

(ii) A synthetic material and is at least 1,500 feet long and is certified by the manufacturer to have a breaking strength of at least 9,000 pounds and inhibited to resist the effects of ultraviolet rays.

(b) The following equipment must be carried for each shoulder gun type, line-throwing appliance required by this subpart. The equipment must be stowed with the appliance in a box or case, except for the service lines and the auxiliary line which may be stowed in an accessible location nearby:

(1) Ten service projectiles.

(2) Twenty-five cartridges.

(3) Four service lines to be kept in faking boxes or on reels and to be fabricated of—

(i) Flax or cotton, not less than 400 feet long,  $\frac{3}{8}$  inch or more in circumference, and having a breaking strength of not less than 250 pounds; or

(ii) Very flexible woven or braided synthetic material, not less than 600 feet long  $\frac{1}{8}$  inch or more in diameter, having a breaking strength of not less than 140 pounds and inhibited to resist the effects of ultraviolet rays.

(4) One cleaning rod with brush, one can of oil, and 12 wiping patches.

(5) One set of instructions from the manufacturer.

(6) One auxiliary line that is made of either—

(i) Manila and is at least 500 feet long and 3 inches or more in circumference; or

(ii) A synthetic material and is at least 500 feet long, and is certified by the manufacturer to have a minimum breaking strength of 9,000 pounds and inhibited to resist the effects of ultraviolet rays.

[CGD 72-135R, 37 FR 16179, Aug. 11, 1972]

**§ 94.45-20 Accessibility.**

(a) The line-throwing appliance and its equipment shall be kept easily and readily accessible and ready for use. No

part of this equipment shall be used for any other purpose.

#### §94.45-25 Service recommendations.

(a) In firing the line-throwing appliances, the operating instructions and safety precautions furnished by the manufacturer should be followed.

#### §94.45-90 Vessels contracted for prior to November 19, 1952.

(a) Vessels of 150 gross tons and over in ocean or coastwise service contracted for prior to November 19, 1952, shall meet the requirements set forth in §§94.45-5 through 94.45-25. However, if a Lyle gun-type line-throwing appliance is already in service on such vessel, it may be continued in use so long as it is in good and serviceable condition, but may not be replaced by a similar installation. Where Lyle guns are used, the following requirements shall be met:

(1) The equipment enumerated in this paragraph shall be carried for Lyle gun type line-throwing appliances. The equipment and the gun shall be stowed together in a suitable case or box. If the case or box does not meet the requirements of subpart 160.038 of subchapter Q (Specifications) of this chapter for portable magazine chest, the powder and primers shall be separately stowed in a chest meeting such requirement.

(i) Six service projectiles.

(ii) Eighteen bags (2½ ounces each) of black powder marked "One-half normal charge for Lyle gun, 2½ ounces black powder" in a nonferrous metal screw-top container.

(iii) One approved firing attachment with accessories consisting of lanyard, wrench, washer to fit between barrel and shoulder of firing attachment, blank plug for screwing into gun when firing attachment is not in place, cartridge extractor, and 25 primers in a watertight metal box.

(iv) Twenty-five paper wads.

(v) Four service lines, each 1,700 feet in length, of ½-inch to ¾-inch diameter flax or manila, and having a breaking strength of at least 500 pounds, to be kept in faking boxes or on reels.

(vi) One ram rod, 1 wire brush, 1 can of light petrolatum, and 12 wiping patches.

(vii) One tapered wooden plug for muzzle of gun when not in use.

(viii) One set of instructions furnished by the manufacturer of the gun.

(ix) One auxiliary line, 1,500 feet of 3-inch circumference manila.

(2) Accessibility. Same as §94.45-20.

### Subpart 94.50—Embarkation Aids

#### §94.50-1 Application.

(a) The provisions of this subpart, with the exception of §94.50-90, shall apply to all vessels other than yachts and fishing vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of §94.50-90.

#### §94.50-5 Ladders.

(a) *General.* All ladders required by this section shall be of an approved type constructed in accordance with subpart 160.017 of subchapter Q (Specifications) of this chapter.

(b) *Vessels in ocean, coastwise or Great Lakes service.* (1) All vessels in ocean, coastwise or Great Lakes service shall have an approved Type II (chain suspension) ladder for each set of lifeboat davits, but existing ladders previously approved by the Coast Guard may be continued in service so long as they are maintained in good condition. Such ladders shall be kept ready and convenient for use on the lifeboat deck, and shall reach from such deck to the vessel's light water line, no heel assumed. [CGFR 65-50, 30 FR 16989, Dec. 30, 1965, as amended by CGD 79-032, 49 FR 25455, June 21, 1984]

#### §94.50-7 Embarkation aids into inflatable liferafts.

(a) Where inflatable liferafts are substituted for lifeboats, unless freeboard at embarkation point is such that embarkation devices are not necessary, suitable arrangements shall be made for embarkation which shall include sufficient ladders or other suitable devices to facilitate embarkation into the inflatable liferafts when waterborne.

#### §94.50-10 Illumination for lifeboat launching operations.

Each vessel subject to this subchapter must have lights for the con-

tinuous illumination of lifeboats that are being launched and lifeboats that are in the water in the immediate vicinity of the vessel. For detailed requirements of the illumination, see subchapter J (Electrical Engineering Regulations) of this chapter.

[CGFR 72-45, 37 FR 5032, Mar. 9, 1972, as amended by CGD 74-125A, 47 FR 15232, Apr. 8, 1982]

**§ 94.50-15 Illumination for liferaft stowage areas.**

Each vessel subject to this subchapter must have lights for the continuous illumination of the stowage position of liferafts. For detailed requirements of the illumination system, see subchapter J (Electrical Engineering Regulations) of this chapter.

[CGFR 72-45, 37 FR 5032, Mar. 9, 1972, as amended by CGD 74-125A, 47 FR 15232, Apr. 8, 1982]

**§ 94.50-90 Vessels contracted for prior to May 26, 1965.**

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 94.50-5 through 94.50-15 shall be complied with insofar as the number of items of equipment and the method of stowage is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements of §§ 94.50-5 through 94.50-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. All new installations or replacements shall meet the applicable specifications or requirements.

(2) The illumination for lifeboat launching operations need not meet the detailed requirements of subchapter J (Electrical Engineering) of this chapter.

**Subpart 94.55—Portable Radio Apparatus**

**§ 94.55-1 Required on international voyage.**

(a) All vessels on an international voyage shall be provided with a portable radio apparatus complying with the requirements of the Federal Communications Commission unless at least one lifeboat on each side of the vessel is fitted with a fixed radio installation. Such portable radio shall be kept in the radioroom, chartroom, or other suitable location ready to be moved to one or other of the lifeboats in the event of an emergency.

**Subpart 94.60—Emergency Position Indicating Radiobeacon (EPIRB)**

**§ 94.60-1 Emergency position indicating radiobeacon (EPIRB).**

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

- (1) Operative;
- (2) Stowed where it is readily accessible for testing and use; and
- (3) Stowed in a manner so that it will float free if the vessel sinks.

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

(1) That carries a VHF radio-telephone that complies with the FCC requirements; and

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

(c) Each vessel certificated for Great Lakes service, and each other vessel operating on the Great Lakes that is not required to have a Class A EPIRB meeting paragraph (a) of this section must have two Class C EPIRB's installed—

- (1) In a weather tight enclosure;
- (2) In a readily accessible location;



- (3) One on each side of the vessel; and
- (4) At or near the principal embarkation stations.

[CGD 73-24R, 39 FR 10139, Mar. 18, 1974, as amended by CGD 80-024, 49 FR 40409, Oct. 16, 1984]

**Subpart 94.90—Ship's Distress Signals**

**§ 94.90-1 Application.**

(a) The provisions of this subpart shall apply to all manned vessels as specifically noted.

[CGFR 68-32, 33 FR 5719, Apr. 12, 1968]

**§ 94.90-5 Vessels in ocean or coastwise service.**

(a) All vessels of 150 gross tons and over in ocean and coastwise service shall carry within the pilothouse or on the navigator's bridge 12 approved handheld rocket-propelled parachute red flare distress signals, contained in a portable watertight container, constructed in accordance with subpart 160.036 of subchapter Q (Specifications) of this chapter. The service use of the distress signals shall be limited to a period of 3 years from date of manufacture, and replacement of outdated items shall be made at the first port of arrival in the United States where such distress signals are available, except that replacement shall be made in all cases within 12 months after the date of expiration.

(b) All vessels of less than 150 gross tons in ocean and coastwise service carrying persons in addition to the crew shall carry within the pilothouse six hand red flare distress signals and six hand orange smoke distress signals or 12 hand combination flare and smoke distress signals constructed in accordance with subparts 160.021 and 160.037 or subpart 160.023 of subchapter Q (Specifications) of this chapter. Such distress signals shall be stowed in a portable watertight container. The service use of the distress signals shall be limited to a period of 3 years from date of manufacture.

[CGFR 68-32, 33 FR 5719, Apr. 12, 1968]

**§ 94.90-10 Vessels in Great Lakes service.**

(a) All vessels of 150 gross tons and over in Great Lakes service shall carry within the pilothouse or on the navigator's bridge, 12 approved hand-held red flare distress signals, contained in a portable watertight container, constructed in accordance with subpart 160.021 or subpart 160.023 of subchapter Q (Specifications) of this chapter. The service use of distress signals shall be limited to a period of 3 years from date of manufacture, and replacement of outdated items shall be made at the first port of arrival in the United States where such distress signals are available, except that replacement shall be made in all cases within 12 months after the date of expiration.

[CGFR 68-32, 33 FR 5719, Apr. 12, 1968]

**§ 94.90-15 Vessels on short runs.**

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

[CGFR 68-32, 33 FR 5719, Apr. 12, 1968]

**PART 95—FIRE PROTECTION EQUIPMENT**

**Subpart 95.01—Application**

Sec.

95.01-1 General.

95.01-2 Incorporation by reference.

95.01-5 Equipment installed but not required.

**Subpart 95.05—Fire Detecting and Extinguishing Equipment, Where Required**

95.05-1 Fire detecting, manual alarm, and supervised patrol systems.

95.05-5 Fire main system.

95.05-10 Fixed fire extinguishing systems.

95.05-15 Hand portable fire extinguishers and semiportable fire extinguishing systems.

95.05-20 Sand.

**Subpart 95.10—Fire Main System, Details**

95.10-1 Application.

95.10-5 Fire pumps.

95.10-10 Fire hydrants and hose.

95.10-15 Piping.

95.10-90 Installations contracted for prior to May 26, 1965.

**Subpart 95.13—Steam Smothering System, Details**

95.13-1 Application.

95.13-90 Installations contracted for prior to January 1, 1962.

**Subpart 95.15—Carbon Dioxide Extinguishing Systems, Details**

95.15-1 Application.

95.15-5 Quantity, pipe sizes, and discharge rates.

95.15-10 Controls.

95.15-15 Piping.

95.15-20 Carbon dioxide storage.

95.15-25 Discharge outlets.

95.15-30 Alarms.

95.15-35 Enclosure openings.

95.15-40 Pressure relief.

95.15-90 Installations contracted for prior to November 19, 1952.

**Subpart 95.17—Foam Extinguishing Systems, Details**

95.17-1 Application.

95.17-5 Quantity of foam required.

95.17-10 Controls.

95.17-15 Piping.

95.17-20 Discharge outlets.

95.17-25 Additional protection required.

95.17-90 Installations contracted for prior to November 19, 1952.

**Subpart 95.50—Hand Portable Fire Extinguishers and Semiportable Fire Extinguishing Systems, Arrangements and Details**

95.50-1 Application.

95.50-5 Classification.

95.50-10 Location.

95.50-15 Spare charges.

95.50-20 Semiportable fire extinguishers.

95.50-90 Vessels contracted for prior to November 19, 1952.

**Subpart 95.60—Fire Axes**

95.60-1 Application.

95.60-5 Number required.

95.60-10 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 17001, Dec. 30, 1965, unless otherwise noted.

**Subpart 95.01—Application**

**§ 95.01-1 General.**

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

**§ 95.01-2 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, Design and Engineering Standards Division (G-MMS), 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)*

1916 Race Street, Philadelphia, PA 19103  
ASTM F-1121, International Shore Connections for Marine Fire Applications, 1987 .....95.10-10

[CGD 88-032, 56 FR 35825, July 29, 1991, as amended by CGD 95-072, 60 FR 50464, Sept. 29, 1995]

**§ 95.01-5 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.

**Subpart 95.05—Fire Detecting and Extinguishing Equipment, Where Required**

**§ 95.05-1 Fire detecting, manual alarm, and supervised patrol systems.**

(a) Fire detecting, manual alarm, and supervised patrol systems are not re-

quired except in special cases; but if installed, the systems shall meet the applicable requirements of part 76 of subchapter H (Passenger Vessels) of this chapter.

(b) In each compartment containing explosives, and in adjacent cargo compartments, there shall be provided a smoke detecting or other suitable type fire detecting system.

(c) Enclosed spaces which are "specially suitable for vehicles" shall be fitted with an approved fire or smoke detecting system.

[CGFR 66-33, 31 FR 15285, Dec. 6, 1966]

#### §95.05-5 Fire main system.

(a) Fire pumps, hydrants, hose, and nozzles shall be installed on the following vessels:

(1) On all self-propelled vessels.

(2) On all barges with sleeping accommodations for more than 12 persons.

(b) The arrangements and details of the fire main system shall be as set forth in subpart 95.10.

#### §95.05-10 Fixed fire extinguishing systems.

(a) Approved fire extinguishing systems may be used or required in locations delineated in this section on the following vessels:

(1) On all self-propelled vessels other than yachts and fishing vessels.

(2) On all barges with sleeping accommodations for more than 12 persons.

(b) A fixed carbon dioxide or other approved system shall be installed in all cargo compartments and tanks for combustible cargo, except that vessels engaged exclusively in the carriage of coal or grain in bulk need not be fitted with such system. For cargo compartments and tanks fitted with a fixed carbon dioxide or other approved system a deck foam system is not required. The provisions of this paragraph shall not apply to motorboats contracted for prior to November 19, 1952. In lieu of the carbon dioxide or other approved system, the following systems may be used or required in special cases:

(1) A fixed foam system may be used in cargo tanks.

(2) In cases where a cargo compartment is normally accessible and is considered to be a part of the working or

living quarters, a water sprinkling system may be required, and the details of such system will be subject to special approval.

(3) 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 systems contracted for on or after January 1, 1962, will be permitted.

(4) Spaces "specially suitable for vehicles" shall be fitted with an approved carbon dioxide system. Alternately, the Commandant may permit the installation of an approved water sprinkler system or other suitable system.

(c) On vessels other than motorboats a fixed carbon dioxide or other approved system shall be installed in all lamp and paint lockers, oil rooms, and similar spaces. On vessels contracted for prior to January 1, 1962, a steam smothering system may be accepted in lieu of the carbon dioxide system. However, although existing steam smothering systems may be repaired, replaced, or extended, no new systems contracted for on or after January 1, 1962, will be permitted.

(d) On vessels of 1,000 gross tons and over, contracted for on or after November 19, 1952, or where conversion from coal to oil is contracted for on or after November 19, 1952, a fixed carbon dioxide, foam, or water spray system shall be installed in all spaces containing oil fired boilers, either main or auxiliary, or their fuel oil units, valves, or manifolds in the line between the settling tanks and the boilers.

(e) Fire extinguishing systems shall be provided for internal combustion installations in accordance with the following:

(1) If a fixed fire-extinguishing system is installed to protect an internal combustion propelling machinery installation, the system shall be of the carbon dioxide type.

(2) On vessels of 1,000 gross tons and over on an international voyage, the construction or conversion of which is contracted for on or after May 26, 1965, a fixed carbon dioxide system shall be installed in all spaces containing internal combustion or gas turbine main propulsion machinery, auxiliaries with

an aggregate power of 1,000 b. hp. or greater, or their fuel oil units, including purifiers, valves, and manifolds.

(3) On vessels, the construction, conversion or automation of which is contracted for on or after July 1, 1968, the systems shall be in accordance with the following:

(i) A fixed carbon dioxide system shall be installed in any space containing machinery using fuel having a flashpoint of less than 110° F.

(ii) On vessels of 1,000 gross tons and over, a fixed carbon dioxide system shall be installed in all spaces containing internal combustion or gas turbine main propulsion machinery, auxiliaries with an aggregate power of 1,000 b. hp. or greater, or their fuel oil units, including purifiers, valves, and manifolds.

(f) On vessels contracted for on or after November 19, 1952, where an enclosed ventilating system is installed for electric propulsion motors or generators, a fixed carbon dioxide extinguishing system shall be installed in such system.

(g) The arrangements and details of the fixed fire extinguishing systems shall be as set forth in subparts 95.13 through 95.17.

[CGFR 65-50, 30 FR 17001, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15285, Dec. 6, 1966; CGFR 67-90, 33 FR 1016, Jan. 26, 1968]

#### § 95.05-15 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, other than unmanned barges and fishing vessels, as set forth in subpart 95.50.

#### § 95.05-20 Sand.

(a) On vessels of over 1,000 gross tons there shall be in each space containing oil fired boilers a metal receptacle containing not less than 10 cubic feet of sand, sawdust impregnated with soda, or other approved dry materials together with a scoop or shaker for distributing the same. On vessels of 1,000 gross tons or less, at least 5 cubic feet of such materials shall be similarly carried.

(b) In lieu of the requirements in paragraph (a) of this section, one B-II fire extinguisher may be substituted.

### Subpart 95.10—Fire Main System, Details

#### § 95.10-1 Application.

(a) The provisions of this subpart, with the exception of § 95.10-90, 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 § 95.10-90.

#### § 95.10-5 Fire pumps.

(a) Vessels shall be equipped with independently driven fire pumps in accordance with Table 95.10-5(a).

TABLE 95.10-5(a)

Gross tons		Minimum number of pumps	Hose and hydrant size, inches	Nozzle orifice size, inches	Length of hose feet
Over	Not over				
	100	1	1 1/2	1 1/2	150
100	1,000	1	1 1/2	1 1/2	50
1,000	1,500	2	1 1/2	1 1/2	50
1,500	.....	2	2 1/2	2 1/2	50

<sup>1</sup> On vessels of 65 feet in length or less, 3/4-inch hose of good commercial grade together with a commercial garden hose nozzle may be used. The pump may be hand operated and the length of hose shall be sufficient to assure coverage of all parts of the vessel.

<sup>2</sup> 75 feet of 1 1/2-inch hose and 1/2-inch nozzle may be used where specified by § 95.10-10(b) for interior locations and 50 feet of 1 1/2-inch hose may be used in exterior locations on vessels in other than ocean or coastwise service.

(b) On vessels of 1,000 gross tons and over on an international voyage, each required fire pump, while delivering water thru the fire main system at a pressure corresponding to that required by paragraph (c) of this section, shall have a minimum capacity of at least two-thirds of that required for an independent bilge pump. However, in no case shall the capacity of each fire pump be less than that otherwise required by this section.

(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 1 1/2-inch hose is permitted in lieu of 2 1/2-inch hose by footnote 2 of Table 95.10-5(a), the pump capacity shall be determined on the same basis as if 2 1/2-inch hose had been permitted. Where 3/4-inch hose is permitted by Table

95.10-5(a), the Pitot tube pressure need be only 35 p.s.i.

(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 shut-off conditions, are not capable of developing a pressure exceeding this amount.

(e) Fire pumps shall be fitted with a pressure gage 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. Unless specifically approved by the Commandant, no branch lines shall be connected to the fire mains for other than fire and deck wash purposes. Other discharge lines shall lead from a discharge manifold near the fire pump. In no case shall a pump having connection to an oil line be used as a fire pump.

(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, 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 17001, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15285, Dec. 6, 1966]

#### §95.10-10 Fire hydrants and hose.

(a) The size of fire hydrants, hose, and nozzles and the length of hose re-

quired shall be as noted in Table 95.10-5(a).

(b) In lieu of the 2½-inch hose and hydrants specified in Table 95.10-5(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 adapters 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. Facilities must be available enabling an international 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 persons on board while the vessel is being navigated and all cargo holds may be reached with at least 2 streams of water from separate outlets, at least one of which shall be from a single length of hose. In main machinery spaces, all portions of such spaces shall be capable of being reached by at least 2 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 §97.37-15 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 the fire hydrant 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 firehose, 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) Except as allowed in this paragraph, each firehose on each hydrant must have a combination solid stream and water spray firehose nozzle that is approved under Subpart 162.027 of this chapter.

(1) Each  $\frac{3}{4}$  inch hose on a vessel 65 feet or less in length may have a garden hose nozzle that is bronze or metal with corrosion resistance and strength equivalent to bronze.

(2) A vessel designed to only carry bulk cargoes other than liquids may have a smoothbore firehose nozzle on a hose connected to a hydrant that is on an open deck and that serves only cargo holds. This nozzle must be bronze or metal with strength and corrosion resistance equivalent to bronze and have an orifice of the size required under Table 95.10-5(a).

(i-1) 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 having an approved combination nozzle must have a low-velocity water spray applicator that is approved under subpart 162.027 of this chapter. The length of each applicator must be four feet.

(i-2) Fixed brackets, hooks, or other means for stowing an applicator must be next to each fire hydrant that has an applicator under paragraph (i-1) of this section.

(j) Firehose shall not be used for any other purpose than fire extinguishing, drills, and testing.

(k) Fire hydrants, nozzles, and other fittings shall have threads to accommodate the hose connections noted in paragraph (l) of this section.

(1) Firehose and couplings shall be as follows:

(1) Couplings shall be of brass, bronze, or other equivalent metal. For installations on vessels contracted for on or after July 1, 1954, National Standard fire hose coupling threads shall be used for the  $1\frac{1}{2}$ -inch and  $2\frac{1}{2}$ -inch sizes, i.e., 9 threads per inch for  $1\frac{1}{2}$ -inch hose and  $7\frac{1}{2}$  threads per inch for  $2\frac{1}{2}$ -inch hose.

(2) Where  $\frac{3}{4}$ -inch hose is permitted by Table 95.10-5(a), the hose and couplings shall be of good commercial grade.

(3) Each section of fire hose used after January 1, 1980 must be lined commercial fire hose 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 fire hose is accepted as conforming to this requirement. Each section of replacement fire hose or any section of new fire hose placed aboard a vessel after January 1, 1977 must also conform to the specification required by this paragraph.

[CGFR 65-50, 30 FR 17001, Dec. 30, 1965, as amended by CGD 74-60, 41 FR 43151, Sept. 30, 1976; CGD 76-086, 44 FR 2392, Jan. 11, 1979; CGD 88-032, 56 FR 35826, July 29, 1991; CGD 95-012, 60 FR 48051, Sept. 18, 1995]

### § 95.10-15 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 § 97.37-10 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 requirement is in addition to § 95.10-5(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.

**§95.10-90 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 §§95.10-5 through 95.10-15 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 §§95.10-5 through 95.10-15 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 installations. However, all new installations or major replacements shall meet the applicable requirements in this subpart.

(2) All vessels contracted for prior to November 19, 1952, other than motorboats, shall be fitted with fire pumps, hoses, and nozzles in accordance with Table 95.10-90(a)(2).

TABLE 95.10-90(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	1	1 1/2	1 9/16	150
	1,000	1	2 1/2	2 9/16	250
	1,000	2	2 1/2	2 9/16	250

<sup>1</sup> On vessels of 65 feet in length or less, 3/4-inch hose of good commercial grade together with a commercial garden hose nozzle may be used. The pump may be hand operated and the length of hose shall be sufficient to assure coverage of all parts of the vessel.

<sup>2</sup> May use 50 feet of 2 1/2-inch hose with 7/8-inch nozzles for exterior stations. 75 feet of 1 1/2-inch hose with 9/16-inch nozzles may be used for interior station in which case such interior stations shall have siamese connections.

(3) Vessels contracted for prior to July 1, 1935, need not meet the requirements of §95.10-5(h), and vessels contracted for on or after July 1, 1935, but prior to November 19, 1952, may have a carbon dioxide "bilge" in lieu of "total flooding" system. However, in vessels of both categories where a conversion from coal to oil is contracted for on or after November 19, 1952, the provisions of §95.10-5(h) shall apply.

(4) The general requirements of §95.10-5(c) through (g), §95.10-10(d) through (l), and §95.10-15 shall be complied with insofar as is reasonable and practicable.

(5) Before February 12, 1981, each fire hose nozzle must meet §95.10-10(i), and each low-velocity water spray applicator must meet 95.10-10(i-1), except if the nozzle or applicator was approved under subpart 162.027 of this chapter before May 26, 1965—

(i) The nozzle must have a high-velocity water spray tip that meets §162.027-2(c) of this chapter, and the applicator must have a low-velocity water spray head that meets §162.027-2(c) of this chapter; or

(ii) The fire hydrant or nozzle must have a self-cleaning strainer that meets the requirements under which the nozzle was approved.

(6) After February 11, 1981, each new or replacement nozzle must meet §95.10-10(i), and each new or replacement low-velocity water spray applicator must meet §95.10-10(i-1).

[CGFR 65-50, 30 FR 17001, Dec. 30, 1965, as amended by CGD 76-086, 44 FR 2392, Jan. 11, 1979]

**Subpart 95.13—Steam Smothering System, Details**

**§95.13-1 Application.**

(a) In accordance with §95.05-10, steam smothering systems are not permitted on vessels contracted for on or after January 1, 1962, nor for new installations on vessels contracted for prior to that date.

(b) Where a steam smothering system is installed, the provisions of this subpart shall apply.

(c) This does not preclude the introduction of steam into such confined spaces as boiler casings or into tanks for steaming out purposes. Such installations are not to be considered as part of any required fire extinguishing system.

**§95.13-90 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 §97.37-13 of this subchapter. Each branch line shall have a valve at the manifold which shall be marked as required by §97.37-10 of this subchapter.

(3) Branches to paint lockers and similar small spaces may be taken from the nearest steam supply line and shall be not less than ¾-inch pipe size. The valve shall be marked as required by §97.37-10 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 95.13-90(b)(4) or by the following formula:

$$D = C/30,000 \quad (1)$$

where:

D=Required diameter of pipe in inches.

C=Volume of compartment in cubic feet.

TABLE 95.13-90(b)(4)

Volume of compartment in cubic feet		Number of branches to compartment	Pipe size in 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	2	1¾
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 manifold shall be as given by the following formula:

$$D = C/60,000 \quad (2)$$

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 1 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 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 §97.37-10 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 §97.37-13 of this subchapter.

(11) Piping shall not be led into or through spaces accessible to the persons on board 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 purposes except that it may be incorporated with the fire-detecting system, if installed, 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 95.13-90(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 95.13-90(c)(13)

Volume of space in cubic feet		Number of branches to space	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.

**Subpart 95.15—Carbon Dioxide Extinguishing Systems, Details**

**§95.15-1 Application.**

(a) Where a carbon dioxide extinguishing system is installed, the provisions of this subpart, with the exception of §95.15-90, 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 §95.15-90.

(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.

**§95.15-5 Quantity, pipe sizes, and discharge rates.**

(a) *General.* The amount of carbon dioxide required for each space shall be as determined by paragraphs (b) through (e) of 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 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 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 3/4-inch standard pipe size.

(4) No specific discharge rate need be applied to such systems.

(d) *Enclosed ventilation systems for rotating electrical propulsion equipment.* (1) The number of pounds of carbon dioxide required for the initial charge shall be equal to the gross volume of the system divided by 10 for systems having a volume of less than 2,000 cubic feet, and divided by 12 for systems having a volume of 2,000 cubic feet or more.

(2) The piping for the initial charge shall be in accordance with Table 95.15-5(e)(4), and the discharge of the required amount shall be completed within 2 minutes.

(3) In addition to the above there shall be sufficient carbon dioxide available to permit delayed discharges of such quantity as to maintain at least a 25 percent concentration until the equipment can be stopped. If the initial discharge is such as to achieve this concentration until the equipment is stopped, no delayed discharge need be provided.

(4) The piping for the delayed discharge shall not be less than 1/2-inch standard pipe, and no specific discharge rate need be applied to such systems. On small systems, this pipe may be incorporated with the initial discharge piping.

(e) *Machinery spaces, paint lockers, tanks, and similar spaces.* (1) Except as provided in paragraph (e)(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 95.15-5(e)(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 95.15-5(e)(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 requirements of this paragraph, the volume of the machinery space shall be taken as exclusive of the normal machinery casing unless the boiler, internal combustion machinery, or fuel oil installation 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 (e) (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 95.15-5(e)(4).

TABLE 95.15-5(e)(4)

Maximum quantity of carbon dioxide required, pounds	Minimum pipe size, inches	Maximum quantity of carbon dioxide required, pounds	Minimum 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
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 inches.

(8) The discharge of at least 85 percent of the required amount of carbon dioxide shall be complete within 2 minutes.

(f) *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 the quantity be less than that required by paragraph (c)(2) 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 (f) (1) and (2) of this section, the requirements of paragraph (e) of this section shall apply.

[CGFR 65-50, 30 FR 17001, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15285, Dec. 6, 1966]

§95.15-10 Controls.

(a) Except as noted in §95.15-20(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 §95.15-5(e) 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 §§97.37-10 and 97.37-13 of this subchapter.

(d) Systems of the type indicated in §95.15-5(e) 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 §95.15-5(e), 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<sub>2</sub> cylinder storage room. On systems in which the CO<sub>2</sub> 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 65-50, 30 FR 17001, Dec. 30, 1965, as amended by CGD 74-100B, 40 FR 6209, Feb. 10, 1975]

#### §95.15-15 Piping.

(a) The piping, valves, and fittings shall have a bursting pressure of not less than 6,000 pounds per square inch.

(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 pounds per square inch 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 are:

(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 pounds per square inch. 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 pounds per square inch 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 pounds per square inch in lieu of 1,000 pounds per square inch. 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 paragraphs (j) (1) through (3) of this section, small independent systems protecting spaces such as emergency generator rooms, lamp lockers, etc., may be tested by blowing out the pip-

ing with air at a pressure of at least 100 pounds per square inch.

#### §95.15-20 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 §95.15-5(e), 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 siphon 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 17001, Dec. 30, 1965, as amended by CGD 84-044, 53 FR 7749, Mar. 10, 1988]

#### §95.15-25 Discharge outlets.

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

#### §95.15-30 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 §97.37-9 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.

#### §95.15-35 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 other 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.

**§ 95.15-40 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.

**§ 95.15-90 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 §§95.15-5 through 95.15-40 insofar as is reasonable and practicable, with the exception of §95.15-5(e) (1), (2) and (4) covering spaces other than cargo spaces, which systems may be installed in accordance with paragraphs (a) (3) through (6) of this section.

(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 boilerroom taken to the top of the boilers divided by 36. In the event of an elevated boiler room which drains to the machinery space, the system shall be installed in the engineroom 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 under side 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 95.15-90(a)(6). This table is based on cylinders having discharge outlets and siphon tubes of 3/4 inch diameter.

TABLE 95.15-90(a)(6)

Number of cylinders		Nominal pipe size, inches
Over	Not over	
	2	1/2—standard.
2	4	3/4—standard.
4	6	1—extra heavy.
6	12	1 1/4—extra heavy.
12	16	1 1/2—extra heavy.
16	27	2—extra heavy.
27	39	2 1/2—extra heavy.
39	60	3—extra heavy.
60	80	3 1/2—extra heavy.
80	104	4—extra heavy.
104	165	5—extra heavy.

**Subpart 95.17—Foam Extinguishing Systems, Details**

**§ 95.17-1 Application.**

(a) Where a foam extinguishing system is installed, the provisions of this subpart, with the exception of §95.17-90, 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 §95.17-90.

**§ 95.17-5 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 engineroom 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 paragraph.

(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.

(d) *Separate supply of foam agent.* 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.

(e) *Water supply for required pumps.* 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.

**§95.17-10 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 the spaces protected, and shall be marked as required by §97.37-13 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 §97.37-10 of this subchapter.

**§95.17-15 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.

**§95.17-20 Discharge outlets.**

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

**§95.17-25 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 95.10, shall be installed outside of the machinery space entrance. 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 combina-

tion nozzle, applicator, and self-cleaning strainer as described in §95.10-10(1)(3).

**§95.17-90 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 §§95.17-5 through 95.17-20, with the exception of §95.17-5(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 §95.17-5.

**Subpart 95.50—Hand Portable Fire Extinguishers and Semiportable Fire Extinguishing Systems; Arrangements and Details**

**§95.50-1 Application.**

(a) The provisions of this subpart, with the exception of §95.50-90, shall apply to all vessels, other than unmanned barges and fishing vessels, contracted for on or after November 19, 1952. Such vessels contracted for prior to November 19, 1952, shall meet the requirements of §95.50-90.

**§95.50-5 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 95.50-5(c).

TABLE 95.50-5(c)

Classification		Soda-acid and water, gallons	Foam, gallons	Carbon dioxide, pounds	Dry chemical, pounds
Type	Size				
A .....	II .....	2½	2½	.....	.....
B .....	I .....	1¼	1¼	4	2
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.

**§95.50-10 Location.**

(a) Approved hand portable fire extinguishers and semiportable fire extin-



guishing systems shall be installed in accordance with Table 95.50-10(a). 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.

TABLE 95.50-10(a)—HAND PORTABLE FIRE EXTINGUISHER AND SEMI-PORTABLE FIRE-EXTINGUISHING SYSTEMS

Space	Classification (see § 95.50-5)	Quantity and location
<i>Safety areas<sup>1</sup></i>		
Wheelhouse or fire control room .....	.....	None required.
Stairway and elevator enclosures .....	.....	Do.
Communicating corridors .....	A-II .....	1 in each main corridor not more than 150 feet apart. (May be located in stairways.)
Lifeboat embarkation and lowering stations .....	.....	None required.
Radio room .....	.....	.....
C-1 <sup>2</sup> .....	2 in vicinity of exit <sup>2</sup> .	.....
<i>Accommodations<sup>1</sup></i>		
Staterooms, toilet spaces, public spaces, offices, lockers, isolated storerooms, and pantries, open decks, etc.	.....	None required.
<i>Service spaces<sup>1</sup></i>		
Galley .....	B-II or C-II .....	1 for each 2,500 square feet or fraction thereof suitable for hazards involved.
Paint and lamp rooms .....	B-II .....	1 outside space in vicinity of exit.
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.
Carpenter shop and similar spaces .....	A-II .....	1 outside the space in vicinity of exit.
<i>Machinery spaces</i>		
Coal-fired boilers: Bunker and boiler space .....	.....	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 <sup>3</sup> ; 1 required. <sup>4</sup>
Internal combustion or gas turbine propelling machinery spaces ..	B-II .....	1 for each 1,000 brake horsepower, but not less than 2 nor more than 6. <sup>5</sup>
.....	B-III .....	1 required. <sup>6,7</sup>
Electric propulsive motors or generators of open type .....	C-II .....	1 for each propulsion motor or generator unit.
.....	.....	None required.
Enclosed ventilating systems for motors and generators of electric propelling machinery.	.....	.....
<i>Auxiliary spaces:</i>		
Internal combustion or gas turbine .....	B-II .....	1 outside the space in vicinity of exit. <sup>7</sup>
Electric emergency motors or generators .....	C-II .....	1 outside the space in vicinity of exit. <sup>8</sup>
Steam .....	.....	None required.
Trunks to machinery spaces .....	.....	Do.
Fuel tanks .....	.....	Do.
<i>Cargo spaces</i>		
Inaccessible during voyage, including trunks and cargo tanks .....	.....	Do.
Accessible during voyage .....	.....	Do.

<sup>1</sup>For motorboats, the total number of hand portable fire extinguishers required for safety areas, accommodation spaces, and service spaces shall be 1 B-II for motorboats of less than 50 gross tons and 2 B-II for motor boats of 50 gross tons and over. Two B-I hand portable fire extinguishers may be substituted for 1 B-II.

<sup>2</sup>For vessels on an international voyage, substitute 1 C-II in vicinity of exit.

<sup>3</sup>Vessels of less than 1,000 gross tons require 1.

<sup>4</sup>Vessels of less than 1,000 gross tons may substitute 1 B-IV.

<sup>5</sup>Only 1 required for motorboats.

<sup>6</sup>If oil burning donkey boiler fitted in space, the B-V previously required for the protection of the boiler may be substituted. Not required where a fixed carbon dioxide system is installed.

<sup>7</sup>Not required on vessels of less than 300 gross tons if fuel has a flashpoint higher than 110° F.

<sup>8</sup>Not required on vessels of less than 300 gross tons.

(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 §97.37-15 of this subchapter.

(d) Hand portable fire extinguishers and their stations shall be numbered in accordance with §97.37-23 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.

**§95.50-15 Spare charges.**

(a) For all vessels other than motorboats spare charges shall be carried 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 §95.50-10(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.

**§95.50-20 Semiportable fire extinguishers.**

(a) The frame or support of each size III, IV, and V fire extinguisher required by Table 95.50-10(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 95.50-10(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 34133, June 14, 1979]

**§95.50-90 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 §§95.50-5 through 95.50-15 shall be met with the exception that existing installations in safety areas and service spaces may be maintained if in the opinion of the Officer in Charge, Marine Inspection,

they are in general agreement with the degree of safety prescribed by Table 95.50-10(a). In such cases, minor modifications may be made to the same standard as the original installation: *Provided*, That in no case will a greater departure from the standards of Table 95.50-10(a) be permitted than presently exists.

**Subpart 95.60—Fire Axes**

**§95.60-1 Application.**

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

**§95.60-5 Number required.**

(a) All vessels except barges shall carry at least the minimum number of fire axes as set forth in Table 95.60-5(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 95.60-5(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) Manned barges shall carry at least two fire axes.

**§95.60-10 Location.**

(a) Fire axes shall be distributed throughout the spaces available to persons on board 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 §97.37-15 of this subchapter.

**PART 96—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT**

SOURCE: CGFR 65-50, 30 FR 17008, Dec. 30, 1965, unless otherwise noted.

**Subpart 96.01—Application**

**Subpart 96.01—Application**

Sec.

96.01-1 General.

96.01-3 Incorporation by reference.

**Subpart 96.03—Marine Engineering Systems**

96.03-1 Installation and details.

**Subpart 96.05—Electrical Engineering and Interior Communications Systems**

96.05-1 Installation and details.

**Subpart 96.07—Anchors, Chains, and Hawsers**

96.07-1 Application.

96.07-5 Ocean, coastwise, or Great Lakes service.

96.07-10 Lakes, bays, and sounds, or river service.

96.07-90 Vessels contracted for prior to November 19, 1952.

**Subpart 96.17—Magnetic Compass and Gyrocompass**

96.17-1 When required.

**Subpart 96.25—Radar**

96.25-1 When required.

**Subpart 96.27—Sounding Equipment**

96.27-1 When required.

**Subpart 96.30—Protection from Refrigerants**

96.30-1 Application.

96.30-5 General.

96.30-15 Self-contained breathing apparatus.

96.30-90 Vessels contracted for before November 23, 1992.

**Subpart 96.35—Fireman's Outfit**

96.35-1 Application.

96.35-5 General.

96.35-10 Fireman's outfit.

96.35-15 Stowage.

96.35-20 Spare charges.

96.35-90 Vessels contracted for before November 23, 1992.

**Subpart 96.40—Pilot Boarding Equipment**

96.40-1 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.

**§ 96.01-1 General.**

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

**§ 96.01-3 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, Design and Engineering Standards Division (G-MMS), 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

1916 Race St., Philadelphia, PA 19103.

ASTM F1014-1986 Standard Specification for Flashlights on Vessels.

Sections effected—96.35-5(c).

NOTE: All other documents referenced in this part are still in effect.

[CGD 82-042, 53 FR 17705, May 18, 1988, as amended by CGD 95-072, 60 FR 50464, Sept. 29, 1995]

**Subpart 96.03—Marine Engineering Systems**

**§ 96.03-1 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.

Bilge and Ballast Systems.

Tank Vent and Sounding Systems.

Overboard Discharges and Shell Connections.  
Pipe and Pressure Systems.  
Liquefied Petroleum Gas For Cooking and Heating.

### Subpart 96.05—Electrical Engineering and Interior Communications Systems

#### §96.05-1 Installation and details.

(a) The installation of all systems of an electrical engineering or interior communication 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 66-33, 31 FR 15285, Dec. 6, 1966, as amended by CGFR 68-32, 33 FR 5719, Apr. 12, 1968, CGD 74-125A, 47 FR 15232, Apr. 8, 1982]

### Subpart 96.07—Anchors, Chains, and Hawsers

#### §96.07-1 Application.

(a) The provisions of this subpart, with the exception of §96.07-90, 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 §96.07-90.

#### §96.07-5 Ocean, coastwise, or Great Lakes service.

(a) Vessels in ocean, coastwise, or Great Lakes service, except unmanned barges, shall be fitted with anchors, chains, and hawsers in general agreement with the Standards established by the American Bureau of Shipping, see Subpart 90.35 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) Tugs, under 200 feet (61 meters) in length, shall have at least one anchor of one-half the tabular weight listed in the applicable standards.

(d) 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 68-32, 33 FR 5720, Apr. 12, 1968, as amended by CGD 67-013, 53 FR 20624, June 6, 1988]

#### §96.07-10 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.

#### §96.07-90 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.

**Subpart 96.17—Magnetic Compass and Gyrocompass**

**§96.17-1 When required.**

(a) All mechanically propelled vessels in ocean or coastwise service must be fitted with a magnetic compass.

(b) All mechanically propelled vessels of 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) 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 96.25—Radar**

**§96.25-1 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 5964, Jan. 31, 1977]

**Subpart 96.27—Sounding Equipment**

**§96.27-1 When required.**

(a) All mechanically propelled vessels of 500 gross tons and over in 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, shall be fitted with an efficient electronic deep-sea sounding apparatus and

a deep-sea hand lead. All other mechanically propelled vessels of 1,500 gross tons and over in Great Lakes service shall carry a deep-sea hand lead.

[CGFR 66-33, 31 FR 15285, Dec. 6, 1966, as amended by CGD 75-074, 42 FR 5964, Jan. 31, 1977]

**Subpart 96.30—Protection From Refrigerants**

SOURCE: CGD 86-036, 57 FR 48325, Oct. 23, 1992, unless otherwise noted.

**§96.30-1 Application.**

(a) This subpart, except §96.30-90, applies to each vessel that is contracted for on or after November 23, 1992, and is equipped with any refrigeration unit using—

(1) Ammonia to refrigerate any space with a volume of more than 20 cubic feet; or

(2) Fluorocarbons to refrigerate any space with a volume of more than 1000 cubic feet.

(b) Each vessel that is contracted for before November 23, 1992, must satisfy §96.30-90 if it is equipped with any refrigeration unit using—

(1) Ammonia to refrigerate any space with a volume of more than 20 cubic feet; or

(2) Fluorocarbons to refrigerate any space with a volume of more than 1000 cubic feet.

**§96.30-5 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 by the National Institute for Occupational Safety and Health (NIOSH), and have at a minimum a 30-minute air supply, a full facepiece, and a spare charge.

(b) 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.

[CGD 86-036, 57 FR 48325, Oct. 23, 1992; 57 FR 56406, Nov. 27, 1992]

**§96.30-15 Self-contained breathing apparatus.**

(a) Each vessel must have a self-contained breathing apparatus for use as protection against gas leaking from a refrigeration unit.

(b) The self-contained breathing apparatus required by paragraph (a) of this section may be one of those required by §96.35-10.

**§96.30-90 Vessels contracted for before November 23, 1992.**

Vessels contracted for before November 23, 1992, must meet the following requirements:

(a) Each vessels must satisfy §§96.30-5 through 96.30-15 concerning the number of items and method of stowage of equipment.

(b) Items of equipment previously approved, but not meeting the applicable specifications set forth in §96.30-5, 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 §96.30-5(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.

**Subpart 96.35—Fireman's Outfit****§96.35-1 Application.**

This subpart, except §96.35-90, 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 §96.35-90.

[CGD 86-036, 57 FR 48325, Oct. 23, 1992]

**§96.35-5 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 Adminis-

tration (MSHA) and by the National Institute for Occupational Safety and Health (NIOSH), and have at a minimum a 30-minute air supply and full facepiece.

(c) Flashlights shall be Type II or Type III, constructed and marked in accordance with ASTM F1014-1986.

(d) All lifelines shall be of steel or bronze wire rope. Steel wire rope shall be either inherently corrosion-resistant, 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 5/8-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 provide 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 17008, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17485, Oct. 29, 1969; CGD 82-042, 53 FR 17705, May 18, 1988; CGD 86-036, 57 FR 48325, Oct. 23, 1992]

**§96.35-10 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.

(b) Every vessel shall carry at least two firemen's outfits.

[CGFR 69-72, 34 FR 17485, Oct. 29, 1969, as amended by CGD 86-036, 57 FR 48325, Oct. 23, 1992]

**§ 96.35-15 Stowage.**

The fireman's outfits must be stored in widely separated, accessible locations.

[CGD 75-074, 42 FR 5964, Jan. 31, 1977]

**§ 96.35-20 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.

**§ 96.35-90 Vessels contracted for before November 23, 1992.**

Vessels contracted for before November 23, 1992, must meet the following requirements:

(a) Each vessel must satisfy §§96.35-5 through 96.35-20 concerning the number of items and method of stowage of equipment.

(b) Items of equipment previously approved, but not meeting the applicable specifications set forth in §96.35-5, 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 §96.35-5(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 48326, Oct. 23, 1992]

**Subpart 96.40—Pilot Boarding Equipment**

**§ 96.40-1 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 97—OPERATIONS**

**Subpart 97.01—Application**

Sec.  
97.01-1 General.

**Subpart 97.03—Statutory Penalties**

97.03-1 General.

**Subpart 97.05—Notice to Mariners and Aids to Navigation**

97.05-1 Duty of officers.  
97.05-5 Charts and nautical publications.

**Subpart 97.07—Notice and Reporting of Casualty and Voyage Records**

97.07-1 Notice and reporting of casualty and voyage records.

**Subpart 97.10—Persons Allowed in Pilothouse and on Navigation Bridge**

97.10-1 Application.

97.10-5 Persons excluded.

**Subpart 97.11—Stability Letter**

97.11-1 Posting.

**Subpart 97.12—Cargo Stowage**

97.12-1 Bulk ores and similar cargoes.

97.12-5 Manual.

**Subpart 97.13—Station Bills**

97.13-1 Application.

97.13-5 Master's responsibility.

97.13-10 Duties of crew.

97.13-15 Emergency signals.

97.13-20 Master to instruct crew.

**Subpart 97.14—Manning of Lifeboats and Liferrafts**

97.14-1 Application.

97.14-5 Person in command of lifeboat or liferaft.

97.14-10 Certificated lifeboatmen.

97.14-15 Motor-propelled lifeboat.

97.14-20 Lifeboat carrying a radiotelegraph and/or searchlight.

**Subpart 97.15—Tests, Drills, and Inspections**

97.15-1 Application.

97.15-3 Steering gear, whistle, and means of communication.

97.15-5 Drafts and load line markings.

97.15-7 Verification of vessel compliance with applicable stability requirements.

97.15-10 Sanitation.

97.15-15 Examination of boilers and machinery.

97.15-17 Loading doors.

97.15-20 Hatches and other openings.

97.15-25 Line-throwing appliances.

97.15-30 Emergency lighting and power systems.

97.15-35 Fire and boat drills.

97.15-37 Exposure suits.

97.15-40 Electric power operated lifeboat winches.

97.15-45 Lifeboats, rescue boats, liferafts, lifeboats, and buoyant apparatus.

97.15-50 Radio apparatus for lifeboats.

97.15-55 Requirements for fuel oil.

97.15-60 Firefighting equipment, general.

97.15-65 Emergency position indicating radiobeacon (EPIRB).

97.15-70 Personal flotation device lights.

97.15-75 Test of inflatable hopper gate seats on Great Lakes bulk dry cargo vessels.

**Subpart 97.16—Auto Pilot**

97.16-1 Use of auto pilot.

**Subpart 97.17—Steering Orders**

97.17-1 Method of communicating.

**Subpart 97.19—Maneuvering Characteristics**

97.19-1 Data required.

**Subpart 97.20—Whistling**

97.20-1 Unnecessary whistling prohibited.

**Subpart 97.23—Unauthorized Lights**

97.23-1 Unauthorized lights prohibited.

**Subpart 97.25—Searchlights**

97.25-1 Improper use prohibited.

**Subpart 97.27—Lookouts**

97.27-5 Master's and officer's responsibility.

**Subpart 97.30—Reports of Accidents, Repairs, and Unsafe Equipment**

97.30-1 Repairs to boilers and pressure vessels.

97.30-5 Accidents to machinery.

97.30-10 Notice required before repair.

97.30-20 Breaking of safety valve seal.

**Subpart 97.33—Cable Traveler**

97.33-1 When required.

**Subpart 97.34—Work Vests**

97.34-1 Application.

97.34-5 Approved types of work vests.

97.34-10 Use.

97.34-15 Shipboard stowage.

97.34-20 Shipboard inspections.

97.34-25 Additional requirements for hybrid work vests.

**Subpart 97.35—Logbook Entries**

97.35-1 Application.

97.35-3 Logbooks and records.

97.35-5 Actions required to be logged.

97.35-10 Official log entries.

**Subpart 97.36—Display of Plans**

97.36-1 When required.

**Subpart 97.37—Markings for Fire and Emergency Equipment, Etc.**

97.37-1 Application.

97.37-3 General.

97.37-5 General alarm bell contact maker.

97.37-7 General alarm bells.

97.37-9 Carbon dioxide alarm.

97.37-10 Fire extinguishing system branch lines.

97.37-13 Fire extinguishing system controls.

97.37-15 Fire hose stations.

97.37-20 Self-contained breathing apparatus and gas masks.



- 97.37-23 Hand portable fire extinguishers.
- 97.37-25 Emergency lights.
- 97.37-33 Instructions for changing steering gear.
- 97.37-35 Rudder orders.
- 97.37-37 Lifeboats.
- 97.37-40 Liferrafts, lifefloats and buoyant apparatus.
- 97.37-43 Life preservers, exposure suits, wood floats, and ring life buoys.
- 97.37-45 Fire hose and axes.
- 97.37-47 Portable magazine chests.
- 97.37-50 Ventilation alarm failure.
- 97.37-55 Emergency position indicating radiobeacon (EPIRB).
- 97.37-60 Watertight doors.
- 97.37-90 Vessels contracted for prior to November 19, 1952.

**Subpart 97.39—Posting Placards of Instructions for Launching and Inflating Inflatable Liferrafts**

- 97.39-1 When required.

**Subpart 97.40—Markings on Vessels**

- 97.40-1 Application.
- 97.40-5 Hull markings.
- 97.40-10 Draft marks and draft indicating systems.
- 97.40-15 Load line marks.

**Subpart 97.43—Placard of Lifesaving Signals and Breeches Buoy Instructions**

- 97.43-1 Application.
- 97.43-5 Availability.

**Subpart 97.45—Carrying of Excess Steam**

- 97.45-1 Master and chief engineer responsible.

**Subpart 97.47—Routing Instructions**

- 97.47-1 All persons must comply.

**Subpart 97.50—Compliance With Provisions of Certificate of Inspection**

- 97.50-1 Master or person in charge responsible.

**Subpart 97.53—Exhibition of License**

- 97.53-1 Licensed officers.

**Subpart 97.55—De-Energizing of Cargo Hold Lighting Circuits When Grain or Other Combustible Bulk Cargo Is Carried**

- 97.55-1 Master's responsibility.
- 97.55-5 Warning notice posted.

**Subpart 97.60—Motion Picture Film and Equipment**

- 97.60-1 Type required.

**Subpart 97.70—Power-Operated Industrial Trucks**

- 97.70-1 Application.
- 97.70-3 Alternates.
- 97.70-5 Definitions of terms used in subpart.
- 97.70-7 Approved power-operated industrial trucks.
- 97.70-10 Use of power-operated industrial trucks in various locations.
- 97.70-15 Special operating conditions.
- 97.70-20 Refueling.
- 97.70-25 Charging or replacing batteries.
- 97.70-30 Stowage of power-operated industrial trucks aboard a vessel.
- 97.70-35 Stowage of fuel handling devices aboard a vessel.

**Subpart 97.75—Prevention of Oil Pollution**

- 97.75-1 General requirements.

**Subpart 97.80—Operation of Vehicles in Enclosed Locations**

- 97.80-1 Special operating conditions.

**Subpart 97.85—Exposure Suits**

- 97.85-1 Applicability.
- 97.85-5 Stowage of exposure suits.
- 97.85-10 Child size exposure suits required.

**Subpart 97.90—Pilot Boarding Operations**

- 97.90-1 Pilot boarding operation.

**Subpart 97.95—Person in Charge of Transfer of Liquid Cargo in Bulk**

- 97.95-1 General

AUTHORITY: 33 U.S.C. 1321(j); 46 U.S.C. 2103, 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 17011, Dec. 30, 1965, unless otherwise noted.

**Subpart 97.01—Application**

**§97.01-1 General.**

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

**Subpart 97.03—Statutory Penalties****§97.03-1 General.**

(a) The marine safety and criminal statutes provide penalties for the violation of the applicable provisions of this subchapter, which penalties depending upon the gravity of the violation, are as follows:

(1) Assessment and collection of civil monetary penalty.

(2) Criminal prosecution where no loss of life results.

(3) Criminal prosecution for manslaughter where loss of life results from violation of statute or regulation or from misconduct, negligence, or inattention to duty.

(4) Libel against vessel.

(b) In addition to the foregoing, any licensed or certificated personnel committing an act of misbehavior, negligence, unskillfulness, endangering life, violation of marine safety statutes or regulations or requirements thereunder, and incompetency shall be subject to proceedings under the provisions of 46 U.S.C. 239 and regulations thereunder (part 5 of this chapter) with respect to suspension or revocation of license or certificate.

**Subpart 97.05—Notice to Mariners and Aids to Navigation****§97.05-1 Duty of officers.**

(a) Licensed deck officers are required to acquaint themselves with the latest information published by the Coast Guard and the U.S. Navy regarding aids to navigation. Neglect to do so is evidence of neglect of duty. It is desirable that vessels other than motorboats shall have available in the pilot-house 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 (world-wide coverage) are prepared jointly by the U.S. Naval Oceanographic Office, the U.S. Coast and Geodetic Survey 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 U.S. Naval Oceanographic Office, Washington, DC 20390, Branch Oceanographic Offices, 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 15286, Dec. 6, 1966, as amended by CGFR 68-32, 33 FR 5720, Apr. 12, 1968; CGFR 69-116, 35 FR 6861, Apr. 30, 1970; CGD 95-072, 60 FR 50464, Sept. 29, 1995]

**§97.05-5 Charts and nautical publications.**

As appropriate for the intended voyage, all vessels except barges, vessels operating exclusively on rivers, and motorboats other than those certificated for ocean or coastwise route, 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.<sup>1</sup>

[CGD 75-074, 42 FR 5964, Jan. 31, 1977]

**Subpart 97.07—Notice and Reporting of Casualty and Voyage Records****§97.07-1 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 47536, Dec. 14, 1987]

<sup>1</sup>For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

## Subpart 97.10—Persons Allowed in Pilothouse and on Navigation Bridge

### §97.10-1 Application.

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

### §97.10-5 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 learning the profession of pilot, officials of the United States Coast Guard, United States Navy, United States Coast and Geodetic Survey, 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.

[59 FR 16779, Apr. 8, 1994]

## Subpart 97.11—Stability Letter

### §97.11-1 Posting.

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 51008, Nov. 4, 1983]

## Subpart 97.12—Cargo Stowage

### §97.12-1 Bulk ores and similar cargoes.

(a) The owners or operators of general cargo vessels which carry bulk cargoes such as ore, ore concentrates, and similar cargoes shall furnish to the masters of such vessels guidance information pertaining to the safe stowage of such cargoes.

### §97.12-5 Manual.

(a) The manual on the "Stowage of Bulk Cargoes Such as Ore, Ore Concentrates, and Similar Cargoes when Carried in General Cargo Vessels,"

1966,<sup>1</sup> printed and distributed by the National Cargo Bureau, Inc., 99 John Street, New York, N.Y., 10038, is endorsed and recognized by the Coast Guard for use in compliance with the requirements of §97.12-1(a).

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15286, Dec. 6, 1966]

## Subpart 97.13—Station Bills

### §97.13-1 Application.

(a) The provisions of this subpart shall apply to all vessels of over 500 gross tons except barges.

### §97.13-5 Master's responsibility.

(a) A station bill (muster list) shall be prepared by the master of the vessel who shall be responsible to sign such station bill and to ascertain that it is duly posted in conspicuous locations in the vessel, particularly in the crew quarters, before the vessel sails.

### §97.13-10 Duties of crew.

(a) The station bill shall set forth the special duties and duty station of each member of the crew for the various emergencies. The duties shall, as far as possible, be comparable with the regular work of the individual. The duties shall in general include the following and in addition, such other duties shall be assigned as are necessary in the case of the particular vessel for the proper handling of the particular emergency:

(1) The closing of airports, watertight doors, scuppers, sanitary and other discharges which lead through the vessel's hull below the margin line, etc., the stopping of fans and ventilating systems, and the operation of all safety equipment.

(2) The preparation and launching of lifeboats and liferafts.

(3) The extinction of fire.

(4) The muster of passengers, if carried, which shall in general be assigned to the stewards department, and shall include the following:

(1) Warning the passengers.

<sup>1</sup>Copies of this manual are on file at Coast Guard Headquarters and with the various Coast Guard District Commanders for reference purposes.

(ii) Seeing that the passengers are dressed and have put on their life preservers or exposure suits correctly.

(iii) Assembling the passengers and directing them to the appointed stations.

(iv) Keeping order in the passageways and stairways and generally controlling the movement of the passengers.

(v) Seeing that a supply of blankets is taken to the lifeboats.

(5) The custody of the portable radio apparatus required by subpart 94.55 of this subchapter.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGD 76-003a, 45 FR 24478, Apr. 10, 1980; 45 FR 29588, May 5, 1980]

#### § 97.13-15 Emergency signals.

(a) The station bill shall set forth the various signals to be used for the calling of the crew to their stations and for giving instructions while at their stations. These signals shall be as set forth in this section.

(b)(1) The fire alarm signal shall be a continuous blast of the whistle for a period of not less than 10 seconds supplemented by the continuous ringing of the general alarm bells for not less than 10 seconds.

(2) For dismissal from fire alarm stations, the general alarm shall be sounded three times supplemented by three short blasts of the whistle.

(c)(1) The signal for boat stations or boat drill shall be a succession of more than six short blasts followed by one long blast of the whistle supplemented by a comparable signal on the general alarm bells.

(2) Where whistle signals are used for handling the lifeboats, they shall be as follows:

(i) To lower lifeboats, one short blast.

(ii) To stop lowering the lifeboats, two short blasts.

(3) For dismissal from boat stations, there shall be three short blasts of the whistle.

(d) In the case of river vessels, the ship's bell may be used in lieu of the whistle signals stipulated in this section.

(e) The master of any vessel may establish such other emergency signals, in addition to the above, as will provide that all officers, crew, and pas-

sengers will have positive and certain notice of the existing emergency.

#### § 97.13-20 Master to instruct crew.

(a) The master shall conduct such drills and give such instructions as are necessary to insure that all hands are familiar with their duties as specified in the station bill.

### Subpart 97.14—Manning of Lifeboats and Liferrafts

#### § 97.14-1 Application.

(a) The provisions of this subpart shall apply to all vessels equipped with lifeboats and/or liferafts, except unmanned barges.

#### § 97.14-5 Person in command of lifeboat or liferaft.

(a) For vessels in ocean service, a licensed deck officer, an able seaman, or a certificated lifeboatman shall be placed in command of each lifeboat or liferaft. When two or more certificated lifeboatmen are required by Table 97.14-10(a), a second in command shall also be appointed which person shall be either a licensed deck officer, an able seaman, or a certificated lifeboatman.

(b) For vessels in services other than ocean service, the master shall appoint a person in command of each lifeboat and each liferaft. Except for vessels in river service, this person in command shall be either a licensed deck officer, an able seaman, or a certificated lifeboatman.

(c) The person in charge of each lifeboat or liferaft shall have a list of its crew, and shall see that the persons under his orders are acquainted with their several duties.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19987, Dec. 28, 1968]

#### § 97.14-10 Certificated lifeboatmen.

(a) Except for vessels in river service, there shall be for each lifeboat and each liferaft a number of certificated lifeboatmen equal to that specified in Table 97.14-10(a): *Provided*, That vessels required to carry sufficient lifeboats on each side to accommodate all persons on board need only carry the certifi-

cated lifeboatmen required for the manning of the lifeboats on one side.

TABLE 97.14-10(a)

Prescribed complement of lifeboat or liferaft		Minimum number of lifeboatmen <sup>1</sup>	
Over—	Not over—	Ocean service	All services other than ocean <sup>2</sup>
.....	25	2	1
25 .....	40	2	2
40 .....	60	3	3
60 .....	85	4	4
85 .....	110	5	5
110 .....	.....	6	6

<sup>1</sup> Only one certificated lifeboatman required for each inflatable liferaft.

<sup>2</sup> Certificated lifeboatmen are not required of vessels in river service.

(b) The allocation of the certificated lifeboatmen to each lifeboat and each liferaft shall be at the discretion of the master according to the circumstances.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19987, Dec. 28, 1968]

**§97.14-15 Motor-propelled lifeboat.**

(a) The master shall assign to each motor-propelled lifeboat a man capable of working the motor.

**§97.14-20 Lifeboat carrying a radiotelegraph and/or searchlight.**

(a) The master shall assign to each lifeboat carrying a radiotelegraph and/or searchlight a man capable of operating such equipment.

[CGFR 68-32, 33 FR 5720, Apr. 12, 1968]

**Subpart 97.15—Tests, Drills, and Inspections**

**§97.15-1 Application.**

(a) Except as specifically noted, the provisions of this subpart shall apply to all vessels other than motorboats, and to all motorboats on an international voyage. Motorboats not on an international voyage shall meet the general intent of this subpart insofar as is reasonable and practicable with the exception that the logging of information is not required.

**§97.15-3 Steering gear, whistle, and means of communication.**

(a) On all vessels making a voyage of more than 48 hours' duration, the en-

tire steering gear, the whistle, and the means of communication between the bridge or pilothouse and the engineroom 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 in every week.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

**§97.15-5 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 load line mark, port and starboard, in relation to the surface of the water in which the vessel is then floating.

(1) 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.

**§97.15-7 Verification of vessel compliance with applicable stability requirements.**

(a) Except as provided in paragraph (d) of this section, after loading and prior to departure and at all other times necessary to assure the safety of the vessel, the master or person in charge shall determine that the vessel complies with all applicable stability requirements in the vessel's trim and stability book, stability letter, Certificate of Inspection, and Load Line Certificate, as the case may be. The vessel may not depart until it is in compliance with these requirements.

(b) When determining compliance with applicable stability requirements the vessel's draft, trim, and stability must be determined as necessary.

(c) If a log book is required by §97.35, then the master or person in charge must enter an attestation statement verifying that the vessel complies with

the applicable stability requirements at the times specified in paragraph (a) and any stability calculations made in support of the determination must be retained on board the vessel for the duration of the voyage.

(d) Stability verification is not required for tank barges whose Certificate of Inspection carries draft restrictions for purposes other than stability.

[CGD 89-037, 57 FR 41822, Sept. 11, 1992]

#### § 97.15-10 Sanitation.

(a) It shall be the duty of the master and chief engineer to see that the vessel, and, in particular, the quarters are in a clean and sanitary condition. The chief engineer shall be responsible only for the sanitary condition of the engineering department.

#### § 97.15-15 Examination of boilers and machinery.

(a) It shall be the duty of the chief engineer when he assumes charge of the boilers and machinery of a vessel to examine them thoroughly. If any parts thereof are in bad condition, or if the safety-valve seals are broken, the fact shall immediately be reported to the master, owner or agent, and the Officer in Charge, Marine Inspection.

#### § 97.15-17 Loading doors.

(a) The master of a vessel fitted with loading doors shall assure that all loading doors are closed watertight and secured during the entire voyage except that—

(1) If a door cannot be opened or closed while the vessel is at a dock, it may be open while the vessel approaches and draws away from the dock, but only as far as necessary to enable the door to be immediately operated;

(2) If needed to operate the vessel, or embark and disembark passengers when the vessel is at anchor in protected waters, loading doors may be open provided that the master determines that the safety of the vessel is not impaired.

(b) For the purposes of this section, "loading doors" include all weather-tight ramps, bow visors, and openings used to load personnel, equipment, cargo, and stores, in the collision bulkhead, the side shell, and the boundaries

of enclosed superstructures that are continuous with the shell of the vessel.

(c) 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 41823, Sept. 11, 1992]

#### § 97.15-20 Hatches and other openings.

(a)(1) With the exception stated in paragraph (a)(2) of this section, it shall be the responsibility of the master to assure himself that all exposed cargo hatches and other openings in the hull of his vessel are closed, made properly watertight by the use of tarpaulins, gaskets or similar devices, and in all respects properly secured for sea before leaving protected waters.

(2) A vessel engaged in a voyage exclusively on Great Lakes waters and having 6 feet or more of freeboard, measured vertically from the water's edge at the lowest point of sheer to the top of deck at the ship's side, may, at the master's discretion, omit tarpaulins on the ship's hatches from 16 May through 15 September (both dates inclusive). This exemption does not relieve the master of any responsibility for the securing and protection of his hatches during the interval of exemption and, in case of indications of bad weather or other threatening conditions, he shall not leave protected waters until the exposed cargo hatches and other openings in the hull of his vessel are properly covered, secured and protected.

(b) The openings to which this section applies are as follows:

(1) Exposed cargo hatches.

(2) Gangway, cargo and coaling ports fitted below the freeboard deck.

(3) Port lights that are not accessible during navigation including the dead lights for such port lights.

(c) Vessels which, by their design, do not require cargo hatch closing devices and to which § 45.01-20 of subchapter E (Load Lines) of this chapter applies need not comply with the requirements of this section as to exposed cargo hatches.

(d) The master at his discretion may permit hatches or other openings to remain uncovered or open, or to be uncovered or opened for reasonable purposes such as ship's maintenance while the vessel is being navigated: *Provided*, That in his opinion existing conditions warrant such action.

(e) In the event the master employs the discretionary provisions of this section after leaving port he shall cause appropriate entries to be made in the official log or equivalent thereof setting forth the time of uncovering, opening, closing or covering of the hatches or other openings to which this section applies and the circumstances warranting the action taken.

(f) The discretionary provisions of this section shall not relieve the master of his responsibility for the safety of his vessel, her crew or cargo.

#### §97.15-25 Line-throwing appliances.

(a) On vessels fitted with a line-throwing appliance, it shall be the duty of the master to drill his crew in the use of such appliance, and require it to be fired at least once in every 3 months. Each drill shall be recorded in the vessel's official logbook. The service line shall not be used for drill purpose. The drill shall be conducted as follows:

(1) For impulse-projected rocket type, by actually firing the rocket with any flexible line of proper size and length, suitably faked or laid out.

(2) For shoulder gun type, by actually firing, using the regular cartridge and projectile with any flexible line of proper size and length, suitably faked or laid out.

(3) For Lyle gun type, by actually firing, using 2½ ounces of powder, the regular service projectile with any flexible line of proper size and length suitably faked or laid out.

#### §97.15-30 Emergency lighting and power systems.

(a) Where fitted, 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 log book.

[CGFR 65-50, 30 FR 17014, Dec. 30, 1965, as amended by CGFR 70-143, 35 FR 19906, Dec. 30, 1970; 36 FR 5606, Mar. 25, 1971]

#### §97.15-35 Fire and boat drills.

(a) The master shall be responsible for conducting a fire and boat drill at least once in every week. The scheduling of such drills shall be at the discretion of the Master except that at least one fire and boat drill shall be held within 24 hours of leaving a port if more than 25 percent of the crew have been replaced at that port.

(b) The fire and boat drill shall be conducted as if an actual emergency existed. All hands should report to their respective stations and be prepared to perform the duties specified in the station bill.

(1) Fire pumps shall be started and a sufficient number of outlets used to ascertain that the system is in proper working order.

(2) All rescue and safety equipment shall be brought from the emergency equipment lockers and the persons designated shall demonstrate their ability to use the equipment.

(3) All watertight doors which are in use while the vessel is under way shall be operated.

(4) Weather permitting, lifeboat covers and strongbacks shall be removed, plugs or caps put in place, boat ladders secured in position, painters led forward and tended, and other life-saving equipment prepared for use. The motor and hand-propelling gear of each lifeboat, where fitted, shall be operated for at least 5 minutes.

(5) The passengers, if carried, shall be encouraged to fully participate in these drills and shall be instructed in the use of the life preservers.

(6) In port, every lifeboat shall be swung out, if practicable, and the unobstructed lifeboats shall be lowered to the water and the crew exercised in the use of the oars and other means of propulsion if provided for the lifeboat. Although all lifeboats may not be used in a particular drill, care shall be taken that all lifeboats are given occasional use to ascertain that all lowering equipment is in proper order and the crew properly trained. The Master shall be responsible that each lifeboat is lowered to the water at least once in each 3 months.

(7) When the vessel is under way, and weather permitting, all lifeboats shall be swung out to ascertain that the gear is in proper order.

(8) The person in charge of each lifeboat and liferaft shall have a list of its crew and shall see that the men under his command are acquainted with their duties.

(9) Lifeboat equipment shall be examined at least once a month to insure that it is complete.

(c) An entry shall be made in the vessel's official logbook relative to each fire and boat drill setting forth the date and hour, length of time of the drill, numbers on the lifeboats swung out and numbers on those lowered, the length of time that motor and hand-propelled lifeboats are operated, the number of lengths of hose used, together with a statement as to the condition of all fire and lifesaving equipment, watertight door mechanisms, valves, etc. An entry shall also be made to report the monthly examination of the lifeboat equipment. If in any week the required fire and boat drills are not held or only partial drills are held, an entry shall be made stating the circumstances and extent of the drills held.

(d) A copy of these requirements, Form CG-809, shall be framed under glass and posted in a conspicuous place about the vessel. This form may be obtained from the Officer in Charge, Marine Inspection.

#### § 97.15-37 Exposure suits.

The master of a vessel carrying exposure suits in accordance with Subpart 94.41 of this chapter shall make sure that—

(a) Each crew member either—

(1) Wears an exposure suit in at least one boat drill per month unless it is impracticable due to warm weather; or

(2) Participates in at least one exposure suit drill per month that includes donning an exposure suit and being instructed in its use;

(b) In each fire and boat drill, each passenger on board is instructed in the use of exposure suits; and

(c) Each passenger is told at the beginning of the voyage where exposure suits are stowed on board and is encouraged to read the instructions for donning and use of the exposure suits.

[CGD 76-003a, 45 FR 24478, Apr. 10, 1980; 45 FR 29588, May 5, 1980; CGD 82-075a, 49 FR 4485, Feb. 7, 1984]

#### § 97.15-40 Electric power operated lifeboat winches.

(a) It shall be the duty of the master to see that all lifeboat winch control apparatus, including motor controllers, emergency switches, master switches, and limit switches, are examined at least once in each 3 months. The examination shall include the removal of drain plugs and/or the opening of drain valves in such appliances to assure that the enclosures are free of water.

(b) The date of the examination required by this section and the condition of the equipment shall be noted in the official logbook.

#### § 97.15-45 Lifeboats, rescue boats, liferafts, lifefloats, and buoyant apparatus.

(a)(1) It shall be the duty of the master or person in charge to see that the lifeboats, rescue boats, liferafts, lifefloats, and buoyant apparatus are properly maintained at all times, and that all equipment for his vessel required by the regulations in this subchapter is provided, maintained, and replaced as indicated.

(2) The master shall assign to one or more officers the duty of seeing that the lifeboats, rescue boats, liferafts, lifefloats, and buoyant apparatus are at all times ready for immediate use.



(3) The decks on which lifeboats, rescue boats, liferafts, lifefloats, and buoyant apparatus are stowed shall be kept clear of cargo or any other obstructions which would interfere with the immediate launching of such equipment.

(b) Where motor-propelled lifeboats are carried, the motor of each lifeboat shall be operated in the ahead and astern position for a period of not less than 5 minutes at least once in each week.

(c) All lifeboats, rescue boats and rigid type liferafts shall be stripped, cleaned, and thoroughly overhauled at least once in every year. When lifeboats are removed from a vessel for this purpose on a rotational basis, the installation test prescribed by subpart 94.35 of this subchapter need not be made.

(d) The fuel tanks of all motor-propelled lifeboats shall be emptied and the fuel changed at least once in every year.

(e) Vessels in ocean or coastwise service having a sufficient number of lifeboats on each side to accommodate all persons on board may care for their lifeboats at sea: *Provided*, That a number of lifeboats sufficient to accommodate all persons on board are fully equipped and ready for use at all times.

(f) Inflatable liferafts shall be serviced at an approved service facility every 12 months or not later than the next inspection for certification provided the time since date of last servicing does not exceed 15 months. Except in emergencies no servicing should be done aboard vessels.

**§ 97.15-50 Radio apparatus for lifeboats.**

(a) It shall be the duty of the master to require that all batteries for all fixed and portable radio apparatus for lifeboats are brought up to full charge weekly if the batteries are of a type which require recharging.

(b) In any case, the transmitter shall be tested weekly using a suitable artificial aerial.

**§ 97.15-55 Requirements for fuel oil.**

(a) It shall be the duty of the chief engineer to cause an entry in the log to be made of each supply of fuel oil re-

ceived 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-D93) 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 17011, Dec. 30, 1965, as amended by CGFR 68-82, 33 FR 18901, Dec. 18, 1968]

**§ 97.15-60 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 91.25-20(a)(1) and 91.25-20(a)(2) in § 91.25-20 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.

**§97.15-65 Emergency position indicating radio beacon (EPIRB).**

The master shall make sure that each EPIRB other than an EPIRB in an inflatable life raft—

(a) Is tested monthly, using the visual or audible output indicator to determine that it is operative; and—

(b) Has its battery replaced—

(1) Immediately after the EPIRB is used for purposes other than testing, and—

(2) On or before the marked expiration date.

[CGD 80-024, 49 FR 40409, Oct. 16, 1984]

**§97.15-70 Personal flotation device lights.**

(a) Each personal flotation device light that has a non-replaceable power source must be replaced on or before the expiration date of the power source.

(b) Each replaceable power source for a personal flotation device light must be replaced on or before its expiration date and the light must be replaced when it is no longer serviceable.

[CGD 76-028, 44 FR 38784, July 2, 1979]

**§97.15-75 Test of inflatable hopper gate seals on Great Lakes bulk dry cargo vessels.**

(a) It is the duty of the Master to ensure that the inflatable hopper gate seals installed on vessels required to meet the damage stability requirements of subpart H of part 172 of this chapter are tested after each carriage of cargo.

(b) Where inflatable hopper gate seals are installed, the test must consist of inflating the seals and assuring they hold the design pressure for at least 15 minutes without a drop in pressure.

(c) The date of the test and the condition of the equipment must be noted in the vessel's official logbook.

[CGD 80-159, 51 FR 33059, Sept. 18, 1986]

**Subpart 97.16—Auto Pilot****§97.16-1 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;

(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 5964, Jan. 31, 1977]

**Subpart 97.17—Steering Orders****§97.17-1 Method of communicating.**

(a) All steering orders shall be given and communicated in terms of "right rudder" where it is intended that the top of the wheel, the rudder blade, and the head of the ship should go to the right, and "left rudder" where it is intended that the top of the wheel, the rudder blade, and the head of the ship should go to the left.

**Subpart 97.19—Maneuvering Characteristics****§97.19-1 Data required.**

For each ocean and coastwise vessel of 1,600 gross tons or 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 or 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]

**Subpart 97.20—Whistling**

**§ 97.20-1 Unnecessary whistling prohibited.**

(a) The unnecessary sounding of the vessel's whistle is prohibited within any harbor limits of the United States.

**Subpart 97.23—Unauthorized Lights**

**§ 97.23-1 Unauthorized lights prohibited.**

(a) The master shall not authorize or permit the carrying of any lights not required by law that in any way will interfere with the distinguishing of the signal lights.

**Subpart 97.25—Searchlights**

**§ 97.25-1 Improper use prohibited.**

(a) No person shall flash or cause to be flashed the rays of a searchlight or other blinding light onto the bridge or into the pilothouse of any vessel under way.

**Subpart 97.27—Lookouts**

**§ 97.27-5 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.

## Subpart 97.30—Reports of Accidents, Repairs, and Unsafe Equipment

### § 97.30-1 Repairs to boilers 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 to the port where the repairs are to be made.

### § 97.30-5 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.

### § 97.30-10 Notice required before repair.

(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.

### § 97.30-20 Breaking of safety valve seal.

(a) If at any time it is necessary to break the seal on a safety valve for any purpose, the chief engineer shall advise the Officer in Charge, Marine Inspection, at the next port of call, giving the reason for breaking the seal and requesting that the valve be examined and adjusted by an inspector.

## Subpart 97.33—Cable Traveler

### § 97.33-1 When required.

(a) On vessels where the distance between deck houses is more than 150 feet, a wire cable shall be stretched between the deck houses at all times when the vessel is navigating in other

than protected waters. As many loose rings with lanyards shall be attached as deemed necessary by the master. In any case, a properly constructed raised catwalk or raised bridge or a below deck passage may be substituted for the required cable.

## Subpart 97.34—Work Vests

### § 97.34-1 Application.

(a) Provisions of this subpart shall apply to all vessels inspected and certificated in accordance with this subchapter.

### § 97.34-5 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.

[CGD 78-174A, 51 FR 4350, Feb. 4, 1986]

### § 97.34-10 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.

### § 97.34-15 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.

### § 97.34-20 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 mutilated in the presence of a marine inspector so as to prevent its continued use as a work vest.

**§ 97.34-25 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.

[CGD 78-174A, 51 FR 4350, Feb. 4, 1986]

**Subpart 97.35—Logbook Entries**

**§ 97.35-1 Application.**

(a) Except as specifically noted, the provisions of this subpart shall apply to all vessels other than motorboats and barges. Motorboats on an international or intercoastal voyage may be required to carry a logbook in accordance with § 97.35-10.

**§ 97.35-3 Logbooks and records.**

(a) Under various statutes or by regulations in this subchapter, vessels engaged in all trades, with the exception of vessels engaged exclusively in trade on rivers of the United States shall have certain logbooks or records, and, when the occasion arises, it is the duty of the master or person in charge to place therein specific entries as required by law or regulations in this chapter.

(b) R.S. 4290, as amended (46 U.S.C. 201), states: "Every vessel making voyages from a port in the United States to any foreign port, or, being of the burden of 75 tons or upward, from a port on the Atlantic to a port on the Pacific, or vice versa, shall have an Official Logbook; \* \* \*." This Official Logbook is furnished gratuitously to

masters of United States' flag vessels by the Coast Guard, as Form CG-706B or CG-706C, depending upon the number of persons employed as crew. There is printed in the first several pages of this Official Logbook various acts of Congress relating to logbooks and the entries required to be made therein. When a voyage is completed, or after a specified period of time is completed, the Official Logbooks with required entries therein shall be filed with the Officer in Charge, Marine Inspection, at or nearest the port where the vessel may be.

(c) For vessels other than those required to have Official Logbooks by R.S. 4290, the owners, operators, and/or masters are to supply their own logs or records in any form desired, which will be considered to take the place of the Official Logbooks and may be used for the purpose 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 shall be kept available for review by a marine inspector for a period of one year after the date to which the records refer, except for separate records of tests and inspections of firefighting equipment which shall be maintained with the vessel's logs for the period of validity of the vessel's certificate of inspection.

**§ 97.35-5 Actions required to be logged.**

(a) 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.

(1) Fire and Boat Drills. Weekly. See § 97.15-35.

(2) Steering Gear, Whistle, and Means of Communication. Prior to departure. See § 97.15-3.

(3) Drafts and Load Line Markings. Prior to leaving port, ocean, coastwise, and Great Lakes services only. See § 97.15-5.

(4) Verification of vessel compliance with applicable stability requirements. After loading and prior to departure and at all other times necessary to as-

sure the safety of the vessel. See §97.15-7.

(5) Loading doors. Where applicable, every closing and any opening when not docked. See §97.15-17.

(6) Hatches and other openings. All openings and closings, or leaving port without closing. Except vessels on protected waters. See §97.15-20.

(7) Line Throwing Appliances. Once every 3 months. See §97.15-25.

(8) Emergency Lighting and Power Systems. Weekly and semi-annually. See §97.15-30.

(9) Electric Power Operated Lifeboat Winches. Once every 3 months. See §97.15-40.

(10) Fuel oil data: Upon receipt of fuel oil on board. See §97.15-55.

(11) Cargo gear inspections: At least once a month. See §91.37-70 of this subchapter.

(12) Inflatable hopper gate seals. Where installed to comply with subpart G of part 172 of this chapter after each carriage of cargo. See §97.15-75.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGD 80-159, 51 FR 33059, Sept. 18, 1986; CGD 89-037, 57 FR 41823, Sept. 11, 1992]

#### §97.35-10 Official log entries.

(a) On vessels where an Official Logbook is required by R.S. 4290 (46 U.S.C. 201), all items relative to the crew and passengers, as well as with respect to any casualties which may occur, shall be entered in the Official Logbook as required by this law.

### Subpart 97.36—Display of Plans

#### §97.36-1 When required.

(a) Barges with sleeping accommodations for more than six persons and all self-propelled vessels shall have permanently exhibited for the guidance of the officer in charge of the vessel, general arrangement plans showing for each deck the various fire-retardant bulkheads together with particulars of the fire detecting, manual alarm and fire extinguishing systems, fire doors, means of ingress to the different compartments, and the ventilating systems including the positions of the dampers, the location of the remote means of stopping the fans, and the identification of the fans serving each section. If cargo compartments are "specially

suitable for vehicles," they shall be so indicated on the plan.

[CGFR 66-33, 31 FR 15286, Dec. 6, 1966]

### Subpart 97.37—Markings for Fire and Emergency Equipment, Etc.

#### §97.37-1 Application.

(a) The provisions of this subpart, with the exception of §97.37-90, 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 §97.37-90.

#### §97.37-3 General.

(a) It is the intent of this subpart to provide such markings as are necessary for the guidance of the person on board in case of an 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.

#### §97.37-5 General alarm bell contact maker.

Each general alarm contact maker must be marked in accordance with requirements in subchapter J (Electrical Engineering Regulations) of this chapter.

[CGD 74-125A, 47 FR 15232, Apr. 8, 1982]

#### §97.37-7 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."

**§97.37-9 Carbon dioxide alarm.**

(a) All carbon dioxide alarms shall be conspicuously identified:

"WHEN ALARM SOUNDS—VACATE AT ONCE. CARBON DIOXIDE BEING RELEASED."

**§97.37-10 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.

**§97.37-13 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," or "WATER SPRAY FIRE APPARATUS" as the case may be.

**§97.37-15 Fire hose stations.**

(a) Each fire hydrant shall be identified in red letters and figures at least two 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.

**§97.37-20 Self-contained breathing apparatus and gas masks.**

(a) Lockers or spaces containing self-contained breathing apparatus shall be marked "SELF-CONTAINED BREATHING APPARATUS."

**§97.37-23 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.

**§97.37-25 Emergency lights.**

(a) All emergency lights shall be marked with a letter "E" at least ½ inch high.

**§97.37-33 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.

**§97.37-35 Rudder orders.**

(a) At all steering stations, there shall be installed a suitable notice on the wheel or device or 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."

**§97.37-37 Lifeboats.**

(a) The name of the vessel shall be plainly marked or painted on each side of the bow of each lifeboat in letters not less than 3 inches high. For vessels on an international voyage, the vessel's port of registry shall be added in similar type letters.

(b) The number of each lifeboat shall be plainly marked or painted on each side of the bow of each lifeboat in figures not less than 3 inches high. The lifeboats on each side of the vessel shall be numbered from forward aft, with the odd numbers on the starboard side.

(c) The cubical contents and number of persons allowed to be carried in each lifeboat shall be plainly marked or painted on each side of the bow of each lifeboat in letters and numbers not less than 1½ inches high. In addition, the

number of persons allowed shall be plainly marked or painted on top of at least 2 thwarts in letters and numbers not less than 3 inches high.

(d) All oars shall be conspicuously marked with the vessel's name.

(e) Where mechanical disengaging apparatus is used, the control effecting the release of the lifeboat shall be painted bright red and shall have thereon in raised letters either the words—"DANGER—LEVER DROPS BOAT", or the words—"DANGER—LEVER RELEASES HOOKS".

(f) The top of thwarts, side benches and footings of lifeboats shall be painted or otherwise colored international orange. The area in way of the red mechanical disengaging gear control lever, from the keel to the side bench, shall be painted or otherwise colored white, to provide a contrasting background for the lever. This band of white should be approximately 12 inches wide depending on the internal arrangements of the lifeboat.

#### §97.37-40 Liferrafts, lifefloats and buoyant apparatus.

(a) Rigid type liferafts, lifefloats, and buoyant apparatus, together with their oars and paddles, shall be conspicuously marked with the vessel's name. For vessels on an international voyage, the vessel's port of registry also shall be similarly marked on lifefloats and buoyant apparatus.

(b) The number of persons allowed on each rigid type liferaft, lifefloat, and buoyant apparatus shall be conspicuously marked or painted thereon in letters and numbers at least 1½ inches high.

(c) There shall be stenciled in a conspicuous place in the immediate vicinity of each inflatable liferaft the following:

INFLATABLE LIFERAFT NO. \_\_\_\_\_

\_\_\_\_\_ PERSONS CAPACITY

These markings shall not be placed on the inflatable life raft containers.

NOTE: See §94.10-5(b)(2)(ii) and (iii) and §160.051-8 of this chapter for required markings on an inflatable liferaft and a liferaft's container.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15286, Dec. 6, 1966; CGD 75-040, 40 FR 58454, Dec. 17, 1975]

#### §97.37-43 Life preservers, exposure suits, wood floats, and ring life buoys.

(a) Each life preserver, exposure suit, wood float, and ring life buoy must be marked with the vessel's name.

(b) For vessels on an international voyage, the vessel's port of registry shall be added in similar type letters on all ring life buoys.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGD 76-003a, 45 FR 24478, Apr. 10, 1980; 45 FR 29588, May 5, 1980]

#### §97.37-45 Fire hose and axes.

(a) All fire hose and axes shall be marked with the vessel's name.

#### §97.37-47 Portable magazine chests.

(a) Portable magazine chests shall be marked in letters at least 3 inches high:

"PORTABLE MAGAZINE CHEST — FLAMMABLE — KEEP LIGHTS AND FIRE AWAY."

#### §97.37-50 Ventilation alarm failure.

(a) The alarm required by §92.15-10(d)(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."

[CGFR 66-33, 31 FR 15286, Dec. 6, 1966]

#### §97.37-55 Emergency position indicating radiobeacon (EPIRB).

The EPIRB required in §94.60-1 of this subchapter must be marked with the vessel's name.

[CGD 73-24R, 39 FR 10139, Mar. 18, 1974]

#### §97.37-60 Watertight doors.

Quick-acting Class I watertight doors fitted in accordance with the requirements in §170.255(d) of this chapter must be marked "KEEP THIS DOOR CLOSED".

[CGD 80-129, 51 FR 33059, Sept. 18, 1986]

#### §97.37-90 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 §§97.37-5 through 97.37-50 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.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15286, Dec. 6, 1966]

**Subpart 97.39—Posting Placards of Instructions for Launching and Inflating Inflatable Liferrafts**

**§97.39-1 When required.**

(a) Every vessel equipped with inflatable liferafts shall have posted in conspicuous places which are regularly accessible to the crew and/or passengers, approved placards containing instructions for launching and inflating inflatable liferafts for the information of persons on board. The number and location of such placards shall be as determined necessary by the Officer in Charge, Marine Inspection.

(b) Under the requirements contained in §160.051-6(c)(1) of subpart 160.051 in subchapter Q (Specifications) of this chapter, the manufacturer of approved inflatable liferafts is required to provide approved placards containing such instructions with each liferaft.

**Subpart 97.40—Markings on Vessels**

**§97.40-1 Application.**

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

**§97.40-5 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]

**§97.40-10 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 at any place at the stern

of the vessel as may be necessary for easy observation. 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 location of the draft marks, due to raked stem or cut away skeg, the datum line from which the draft shall 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 17011, Dec. 1965, as amended by CGD 89-037, 57 FR 41823, Sept. 11, 1992]

**§97.40-15 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.

**Subpart 97.43—Placard of Lifesaving Signals and Breeches Buoy Instructions**

**§97.43-1 Application.**

(a) The provisions of this subpart shall apply to all vessels on an international voyage, and to all other vessels of 150 gross tons or over certificated for ocean, coastwise or Great Lakes service.

**§ 97.43-5 Availability.**

(a) On all vessels to which this subpart applies there shall be readily available to the deck officer of the watch a placard (Form CG-811) containing instructions for the use of breeches buoys and the lifesaving signals as set forth in Regulation 16, chapter V, of the International Convention for Safety of Life at Sea, 1974. These signals shall be used by vessels or persons in distress when communicating with lifesaving stations and maritime rescue units.

(b) [Reserved]

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGD 87-031a, 53 FR 27688, July 22, 1988]

**Subpart 97.45—Carrying of Excess Steam**

**§ 97.45-1 Master and chief engineer responsible.**

(a) 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 and sealed by the inspector, are in no way tampered with or made inoperative except as provided in § 97.30-20.

**Subpart 97.47—Routing Instructions**

**§ 97.47-1 All persons must comply.**

(a) Due to existing mine field dangers, all licensed masters, officers, and certificated seamen on United States vessels shall comply strictly with the routing instructions issued by competent naval authority. Failure to comply with such routing instructions shall be deemed misconduct within the meaning of R.S. 4450, as amended (46 U.S.C. 239). Nothing herein shall be construed as relieving the master of the responsibility for the safety of his vessel.

**Subpart 97.50—Compliance With Provisions of Certificate of Inspection**

**§ 97.50-1 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.

**Subpart 97.53—Exhibition of License**

**§ 97.53-1 Licensed officers.**

(a) All licensed officers on a vessel shall have their licenses conspicuously displayed as required by R.S. 4446, 46 U.S.C. 232.

**Subpart 97.55—De-Energizing of Cargo Hold Lighting Circuits When Grain or Other Combustible Bulk Cargo Is Carried**

**§ 97.55-1 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.

**§ 97.55-5 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.

### Subpart 97.60—Motion Picture Film and Equipment

#### § 97.60-1 Type required.

(a) Only acetate or slow-burning film may be used. Nitrocellulose film is specifically prohibited.

(b) Projectors shall be of an approved type.

### Subpart 97.70—Power-Operated Industrial Trucks

#### § 97.70-1 Application.

(a) *Power-operated industrial trucks.* (1) Except as provided in paragraph (a)(3) of this section, power-operated industrial trucks carried on board a vessel as part of the vessel's equipment for handling materials of any kind shall be in compliance with the applicable provisions of this subpart.

(2) Except as provided in paragraph (a)(3) of this section, power-operated industrial trucks placed on board vessels for handling materials of any kind shall be in compliance with the applicable provisions of this subpart when such vessels are within the navigable waters of the United States, its territories and possessions but not including the Panama Canal Zone.

(3) When power-operated industrial trucks are used in spaces not containing dangerous or hazardous articles, as set forth in § 97.70-10(f), the installation of the minimum safety features of § 97.70-7(c) shall be carried out at the earliest opportunity but in any case not later than July 1, 1963.

(b) *Vessels.* (1) Vessels shall be in compliance with the applicable provisions of this subpart during those periods of time when power-operated industrial trucks are on board as part of the vessel's equipment or when such trucks are placed on board for handling materials of any kind.

NOTE: The regulations affecting the use of power-operated industrial trucks on foreign vessels are in 49 CFR 176.78, or in the case of

foreign tank vessels in subpart 35.70 of subchapter D (Tank Vessels) of this chapter.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGD 86-033, 53 FR 36025, Sept. 16, 1988]

#### § 97.70-3 Alternates.

(a) In cases of undue hardship resulting from unavoidable delays in bringing existing power-operated industrial trucks into compliance with the applicable provisions of this subpart, the Commandant may permit the use of alternate equipment, apparatus, or arrangement for such period of time, and to such extent, and upon such conditions as will assure, to the Commandant's satisfaction, a degree of safety consistent with the minimum standards as set forth in this subpart.

(b) The methods and procedures adopted in connection with the modification of existing equipment to meet required laboratory designations will be taken into consideration in granting permission to use alternate arrangements for a limited period of time.

#### § 97.70-5 Definitions of terms used in subpart.

(a) Power-operated industrial trucks are considered to be tractors, lift trucks, and other specialized industrial trucks used for material handling on board a vessel.

(b) For the purpose of the regulations in this subpart, the words "flammable" and "inflammable" are interchangeable or synonymous terms.

#### § 97.70-7 Approved power-operated industrial trucks.

(a) Where approved power-operated industrial trucks are required by the regulations in this subchapter such approved trucks shall have a specific designation of a recognized testing laboratory. The following laboratories are recognized for the specific type designations listed:

(1) Underwriters' Laboratories, Inc. (Mailing address, P.O. Box 247, Northbrook, Ill., 60062) for trucks having recognized testing laboratory type designations E, EE, EX, G, GS, LP, LPS, D and DS.

(2) Factory Mutual Laboratories, Engineering Division, 1115 Boston-Providence Turnpike, Norwood, Mass., 02062,

for trucks having recognized testing laboratory type designations E, EE, EX, G, GS, LP, LPS, D and DS.

(b) Description of recognized testing laboratory type designations are as follows:

(1) The "E" designated units are electrically powered units that have minimum acceptable safeguards against inherent fire hazards.

(2) The "EE" designated units are electrically powered units that have, in addition to all of the requirements for the "E" units, the electric motors and all other electrical equipment completely enclosed. In certain locations the "EE" unit may be used where the use of an "E" unit may not be considered safe.

(3) The "EX" designated units are electrically powered units that differ from the "E" and "EE" units in that the electrical fittings and equipment are so designed, constructed and assembled that the units may be used in certain atmospheres containing flammable vapors or dusts.

(4) The "G" designated units are gasoline powered units having minimum acceptable safeguards against inherent fire hazards.

(5) The "GS" designated units are gasoline powered units that are provided with additional safeguards to the exhaust, fuel and electrical systems. They may be used in some locations where the use of a "G" unit may not be considered safe.

(6) The "LP" designated units are similar to the "G" units except that they are liquefied petroleum gas engine powered instead of gasoline powered.

(7) The "LPS" designated units are units similar to the "GS" units except that liquefied petroleum gas is used for fuel instead of gasoline.

(8) The "D" designated units are units similar to the "G" units except that they are diesel engine powered instead of gasoline engine powered.

(9) The "DS" designated units are diesel powered units that are provided with additional safeguards to the exhaust, fuel and electrical systems. They may be used in some locations where a "D" unit may not be considered safe.

(c) In addition to the construction and design safety features required in

order to obtain a recognized laboratory type designation, approved power-operated industrial trucks shall have at least the following minimum safety features where applicable:

(1) Power-operated industrial trucks shall be equipped with a warning horn, whistle, or gong, or other device that can be heard clearly above the normal shipboard noises.

(2) Wherever power-operated industrial truck operation exposes the operator to danger from falling objects, the truck shall be equipped with a driver's overhead guard. Where overall height of the truck with forks in the lowered position is limited by head room conditions the overhead guard may be omitted.

NOTE: This overhead guard is only intended to offer protection from the impact of small packages, boxes, bagged material, etc., representative of the job application. It is impractical to build a guard of sufficient strength to withstand the impact of a capacity load since such a guard would constitute a safety hazard because its structure would be so large that it might interfere with good visibility and would weigh so much that it might make the truck top-heavy and unstable.

(3) Power-operated fork lift trucks which handle small objects or unstable loads shall be equipped with a vertical load back rest or rack which shall have height, width and strength sufficient to prevent the load, or part of it, from falling toward the mast when the mast is in a position of maximum backward tilt.

(4) The forks on power-operated fork lift trucks shall be secured to the carriage so that unintentional lifting of the toe shall not occur on such application where this lifting may create a hazard. The factor of safety of forks shall be at least 3 to 1, based on the elastic limit of the material.

(5) Fork extensions or other attachments shall be suitably secured to prevent unintentional lifting or displacement on primary forks.

(6) All exposed wheels shall be provided with guards to prevent the wheels from throwing particles at the operator.

(7) Unless the steering mechanism is of a type that prevents road reactions from causing the steering handwheel to spin, the steering knob, if used, shall

be of a mushroom type to engage the palm of the operator's hand, or shall be arranged in some other manner to prevent injury. The knob shall be mounted within the perimeter of the wheel.

(8) All steering controls shall be confined within the clearances of the truck, or so guarded that movement of the controls shall not result in injury to the operator when passing obstructions, stanchions, etc.

**§97.70-10 Use of power-operated industrial trucks in various locations.**

(a) *Spaces containing hazardous materials.* The use of power-operated industrial trucks in spaces containing hazardous materials must be in accordance with 49 CFR 176.78.

(b) *Other spaces.* Any standard commercial type power-operated industrial truck in safe operating condition and having the minimum safety features of §97.70-7(c) may be used in spaces, and for handling cargo in spaces, not otherwise prohibited by this subpart.

[59 FR 39966, Aug. 5, 1994]

**§97.70-15 Special operating conditions.**

(a) Notification shall be given to the master or senior deck officer on board before placing power-operated industrial trucks in use aboard the vessel.

(b) When power-operated industrial trucks are in use on board vessels subject to the regulations in this subchapter, they shall be in a safe operating condition.

(c) 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.

(d) The parts and/or equipment of any power-operated industrial truck requiring replacement shall be replaced only by parts and/or equipment equivalent in safety when installed with those used in the original design.

(e) Any truck that emits sparks or flames from the exhaust system shall immediately be removed from service, and not again returned to service until the cause for the emission of such sparks or flames has been eliminated.

(f) When the temperature of any part of the truck is found to be in excess of a safe operating temperature, the truck shall be removed from service until such overheating has been corrected.

(g) Operation of trucks shall be halted immediately and the engines or motors secured, whenever an emergency condition arises aboard the vessel.

(h) Operation of trucks shall be halted immediately and the engines or motors secured in the event of breakage or leakage of containers used for the carriage of flammable liquids, flammable solids or oxidizing materials.

(i) The rated capacity of a truck shall at all times be posted on the truck in a conspicuous place and such capacity shall not be exceeded.

(j) At least one approved 2-pound dry chemical hand portable fire extinguisher, or its approved equivalent, shall be affixed to the truck in a readily accessible position or kept in close proximity available for immediate use.

(k) Vessel's fire-fighting equipment, both fixed (where installed) and portable, in vicinity of space being worked shall be kept ready for immediate use.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17485, Oct. 29, 1969]

**§97.70-20 Refueling.**

(a) *When permitted.* Power-operated industrial trucks are not permitted to be refueled in the hold of a vessel or on the weather deck except under the following conditions:

(1) Trucks using gasoline as fuel may be refueled in the hold or on the weather deck of a vessel only when such refueling is done with an acceptable port-

able nonspilling fuel handling system of not over 5 gallons capacity. Transfer of gasoline to these portable nonspilling fuel handling devices is not permitted on board the vessel.

(2) Power-operated industrial trucks using liquefied petroleum gas as fuel may be refueled in the hold or on the weather deck of a vessel only when fitted with removable tanks and provided the hand-operated shut-off valve of the depleted tank is closed and the engine is run until it stalls from lack of fuel before the quick disconnect fitting is opened. In addition, the quick disconnect fitting shall be attached to the fuel tank before the hand-operated shutoff valve is reopened.

(3) Power-operated industrial trucks using diesel oil as fuel may be refueled on the weather deck or in the hold of a vessel by means of portable containers of not over 5-gallon capacity. These trucks may also be refueled on the weather deck of a vessel or portable containers refilled from a larger container provided a suitable pump is used for the transfer operation and a drip pan of adequate size is supplied.

(b) *General requirements.* The following conditions must be met when refueling power-operated industrial trucks in the hold of a vessel or on the weather deck under the circumstances listed in paragraph (a) of this section:

(1) Refueling shall be under the direct supervision of an experienced and responsible person specifically designated for such job by the person in charge of the loading or unloading of the vessel.

(2) No refueling shall be undertaken with less than 2 persons specifically assigned and present for the complete operation, at least one of whom shall be experienced in using the portable fire extinguishers required in the fueling area.

(3) At least one approved 4-pound dry chemical hand portable fire extinguisher, or its approved equivalent shall be provided at the scene of the fueling area. This is in addition to portable extinguisher affixed to the truck in accordance with §97.70-15(j).

(4) The location for refueling trucks shall be designated by the master or senior deck officer on board the vessel. "No Smoking" signs shall be posted in

the area and smoking shall be prohibited.

(5) The location designated for refueling shall be adequately ventilated so as to insure against accumulation of a hazardous concentration of vapors. The ventilation requirements of §97.70-15(c) when trucks are operating shall also apply when trucks are being refueled.

(6) Truck engines of all trucks in the same hold shall be stopped before any truck in that hold is refueled and before any fuel handling devices or unmounted liquefied petroleum gas cylinders are placed in the hold.

(7) All fuel handling devices and unmounted liquefied petroleum gas containers shall be removed from the hold before any truck engine is started and the trucks again placed in operation.

#### §97.70-25 Charging or replacing batteries.

(a) Batteries for electrically-powered industrial trucks and for the ignition systems of internal combustion engine-powered industrial trucks may be changed in the hold of a vessel provided the following conditions are met:

(1) Suitable handling equipment shall be employed.

(2) Adequate precautions shall be taken to avoid damage to the battery, short circuiting of the battery, and spillage of the electrolyte.

(b) Batteries of electrically-powered industrial trucks may be recharged in a hold of a vessel provided the following conditions are met:

(1) The batteries shall be housed in a suitable, ventilated, portable metal container with a suitable outlet at the top for connection of a portable air hose, or shall be placed directly beneath a suitable metal hood with a suitable outlet at the top for connection of a portable air hose. The air hose shall be permanently connected to an exhaust duct leading to the open deck and terminate in a gooseneck or other suitable weather head. If natural ventilation is not practicable or adequate, mechanical means of exhaust shall be employed in conjunction with the duct. The air outlet on the battery container shall be equipped with an interlock switch so arranged that the charging of the battery cannot take place unless

the air hose is properly connected to the box.

(2) If mechanical ventilation is used, an additional interlock shall be provided between the fan and the charging circuit so that the fan must be in operation in order to complete the charging circuit for operation. It is preferable that this interlock switch be of a centrifugal type driven by the fan shaft.

(3) The hold shall not contain any cargo coming under the regulations in 49 CFR parts 171-179.

(4) The charging facilities may be part of the truck equipment or may be separate from the truck and located inside or outside the cargo hold. The supply or charging circuit (whichever method is used) shall be connected to the truck by a portable plug connection of the break-away type. This portable plug shall be so engaged with the truck battery charging outlet that any movement of the truck away from the charging station will break the connection between the plug and receptacle without exposing any live parts to contact with a conducting surface or object, and without the plug falling to the deck where it may become subject to injury.

(c) All unmounted batteries shall be suitably protected or removed from an area in the hold of the vessel before trucks are operated in that area.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGD 86-033, 53 FR 36025, Sept. 16, 1988]

**§97.70-30 Stowage of power-operated industrial trucks aboard a vessel.**

(a) Power-operated industrial trucks may be stowed in any location aboard a vessel provided the following conditions are met:

(1) Gasoline powered trucks shall have all the fuel expended from the system.

(2) Liquefied petroleum gas powered trucks shall have the fuel tanks removed and all the fuel expended from the system.

(b) Power-operated industrial trucks not meeting the conditions set forth in paragraph (a) of this section shall be stowed on the open deck except for intervals such as lunch hours, between work shifts, interdock and intraport movements. If stowed in a fixed metal

enclosure located on or above the weather deck, such enclosure, in addition having the carbon dioxide extinguishing system required by §95.05-10(c) of this subchapter, shall have access from the weather deck only and shall have adequate ventilation, so arranged as to remove vapors from both the upper and lower portions of the space.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGFR 67-90, 33 FR 1016, Jan. 26, 1968]

**§97.70-35 Stowage of fuel handling devices aboard a vessel.**

(a) Flammable liquids and gases to be used as fuels for power-operated industrial trucks shall be marked, labeled and stowed as follows:

(1) They shall be stowed in DOT specification containers, A.S.M.E. containers or portable safety containers having the approval of a recognized testing laboratory, which containers are authorized for the contents.

(2) Containers shall be marked with the name of the contents and shall be labeled in accordance with DOT requirements as follows:

(i) Flammable liquids—"Red Label"; or,

(ii) Flammable gases—"Red Gas Label".

(3) Containers shall be stowed on or above the weather deck in locations designated by the master. DOT specification containers, A.S.M.E. containers, or portable safety containers having the approval of a recognized testing laboratory may be stowed below the weather deck in a paint or lamp locker provided such containers do not exceed 5 gallons capacity each.

(b) Diesel fuel shall be stowed in locations designated by the master.

[CGFR 65-50, 30 FR 17011, Dec. 30, 1965, as amended by CGD 86-033, 53 FR 36025, Sept. 16, 1988]

**Subpart 97.75—Prevention of Oil Pollution**

**§97.75-1 General requirements.**

A cargo vessel must be operated to meet the requirements in—

(a) Section 311 of the Federal Water Pollution Control Act, as amended (86 Stat. 816; 33 U.S.C. 1321);

(b) Section 12 of the Oil Pollution Act, 1961, as amended (75 Stat. 404; 33 U.S.C. 1011); and

(c) 33 CFR parts 151, 155, and 156.

[CGD 73-58R, 39 FR 18767, May 30, 1974]

### Subpart 97.80—Operation of Vehicles in Enclosed Locations

#### §97.80-1 Special operating conditions.

(a) The operation of self-propelled vehicles in enclosed locations (other than power-operated industrial trucks when subject to subpart 97.70 of this part) 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 15286, Dec. 6, 1966, as amended by CGFR 69-72, 34 FR 17485, Oct. 29, 1969]

### Subpart 97.85—Exposure Suits

SOURCE: CGD 76-003a, 45 FR 24478, Apr. 10, 1980; 45 FR 29588, May 5, 1980, unless otherwise noted.

#### §97.85-1 Applicability.

This subpart applies to each vessel required to carry an exposure suit under subpart 94.41 of this chapter.

[CGD 82-075a, 49 FR 4485, Feb. 7, 1984]

#### §97.85-5 Stowage of exposure suits.

The master or person in charge of a vessel shall ensure that:

(a) Each exposure suit required by §94.41-5(a) is stowed in a readily accessible location in or near the berthing area of the person for whom the exposure suit is provided;

(b) Each exposure suit required by §94.41-5(b) for a watch or work station is stowed in a readily accessible location in or near the station; and

(c) If child size exposure suits are carried, each one is stowed in a manner that prevents mistaking it for an adult size.

#### §97.85-10 Child size exposure suit required.

The master or person in charge of a vessel shall ensure that children, when carried, are provided with child size exposure suits.

### Subpart 97.90—Pilot Boarding Operations

#### §97.90-1 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 97.95—Person in Charge of Transfer of Liquid Cargo in Bulk (Eff. 3-1-96)**

SOURCE: CGD 79-116, 60 FR 17157, Apr. 4, 1995

**§ 97.95-1 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]

EFFECTIVE DATE NOTE: At CGD 79-116, 60 FR 17157, § 97.95-1 was added effective March 1, 1996.

**PART 98—SPECIAL CONSTRUCTION, ARRANGEMENT, AND OTHER PROVISIONS FOR CERTAIN DANGEROUS CARGOES IN BULK**

**Subpart 98.01—General.**

Sec.

98.01-1 Applicability.

98.01-3 Incorporation by reference.

**Subpart 98.25—Anhydrous Ammonia in Bulk**

98.25-1 Applicability.

98.25-5 How anhydrous ammonia may be carried.

98.25-10 Design and construction of cargo tanks.

98.25-15 Markings.

98.25-20 Installation of cargo tanks.

98.25-30 Lagging.

98.25-35 Refrigerated systems.

98.25-40 Valves, fittings, and accessories.

98.25-45 Liquid level gaging device.

98.25-50 Filling and discharge pipes.

98.25-55 Cargo piping.

98.25-60 Safety relief valves.

98.25-65 Filling density.

98.25-70 Venting.

98.25-75 Ventilation.

98.25-80 Cargo hose.

98.25-85 Electrical bonding.

98.25-90 Special operating requirements.

98.25-95 Tests and inspections.

98.25-97 Nondestructive testing.

**Subpart 98.30—Portable Tanks**

98.30-1 Applicability.

98.30-2 Definitions.

98.30-3 Vessels carrying MPTs.

98.30-4 Vessels carrying portable tanks other than MPTs.

98.30-5 Materials authorized for transfer to and from a portable tank.

98.30-6 Lifting a portable tank.

98.30-7 Smoking.

98.30-8 Gaskets and lining.

98.30-9 Stowage of portable tanks.

98.30-10 Pipe connections, and filling and discharge openings.

98.30-11 Cargo pumps.

98.30-13 Ground connection.

98.30-14 Requirements for ships carrying NLSs in portable tanks.

98.30-15 Leakage containment.

98.30-17 Qualifications of person in charge.

98.30-19 Supervision by person in charge.

98.30-21 Inspection prior to transfer.

98.30-23 Requirements for transfer; general.

98.30-25 Requirements for transfer; cargo handling system.

98.30-27 Connections.

98.30-29 Piping incompatible products.

98.30-31 Conditions for pumping.

98.30-33 Warning signals.

98.30-35 Warning sign at gangway.

98.30-37 Firefighting requirements.

98.30-39 Alternate fire extinguishing system.

**Subpart 98.31—Control of Pollution from NLS Cargoes on Oceangoing Offshore Supply Vessels**

98.31-5 Applicability.

98.31-10 Certificate of inspection and NLS certificate endorsements.

98.31-15 Operating requirements.

**Subpart 98.33—Portable Tanks for Certain Grade E Combustible Liquids and Other Regulated Materials**

98.33-1 Applicability.

98.33-3 Cargoes authorized.

98.33-5 Portable tanks authorized.

98.33-7 Pipe and hose connections.

98.33-9 Stowage.

98.33-11 Smoking.

98.33-13 Cargo-handling systems.

98.33-15 Transfers.

AUTHORITY: 33 U.S.C. 1903; 46 U.S.C. 3306, 3703; 49 U.S.C. App. 1804; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 17022, Dec. 30, 1965, unless otherwise noted.

**Subpart 98.01—General**

**§ 98.01-1 Applicability.**

(a) The provisions of this part shall apply to all self-propelled cargo vessels which carry in bulk any of the dangerous cargoes specifically noted in this part.

(b) [Reserved]

(c) The regulations for barges carrying any of the bulk chemical cargoes listed in subparts 98.01 through 98.25 are found in subchapter O of this chapter.

(d) [Reserved]

(e) Manned barges carrying any of the cargoes listed in Table 151.05 of this chapter will be considered individually by the Commandant and may be required to meet the applicable requirements of subchapter O of this chapter, as well as the requirements of this subchapter.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 70-10, 35 FR 3711, Feb. 25, 1970; CGD 84-043, 55 FR 37411, Sept. 11, 1990; 59 FR 17011, Apr. 11, 1994]

**§ 98.01-3 Incorporation by reference.**

(a) Certain standards and specifications 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 ones listed in paragraph (b) of this section, notice of change must be published in the FEDERAL REGISTER and the material made available to the public. All approved material is at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC, and is available from the sources indicated in paragraph (b) of this section.

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

*American Society for Nondestructive Testing (ASNT)*

4153 Arlingate Road, Caller # 28518, Columbus, OH, 43228-0518

ASNT "Recommended Practice No. SNT-TC-1A (1988), Personnel Qualification and Certification in Non-destructive Testing" .....98.25-97(c)(2)

*American Society of Mechanical Engineers*

United Engineering Center, 345 East 47th Street, New York, N.Y. 10017

ASME Boiler and Pressure Vessel Code, section V, Nondestructive Examination (1986) .....98.25-97(a)(1)

[CGD 85-061, 54 FR 50965, Dec. 11, 1989]

**Subpart 98.25—Anhydrous Ammonia in Bulk**

**§ 98.25-1 Applicability.**

(a) The regulations in this subpart apply to each self-propelled vessel that has anhydrous ammonia on board as a cargo, cargo residue, or vapor and that is not regulated under part 154 of this chapter.

(b) Any self-propelled vessel to which this subpart applies shall be inspected and certificated under this subchapter and subchapter D of this chapter.

[CGD 74-289, 44 FR 26008, May 3, 1979]

**§ 98.25-5 How anhydrous ammonia may be carried.**

(a) Anhydrous ammonia shall be carried in unfired pressure vessel type tanks independent of the structure as detailed in this part, except as otherwise provided in paragraph (b) of this section.

(b) When anhydrous ammonia is to be transported at its boiling temperature at or near atmospheric pressure, the Commandant may permit the use of alternate methods of storage if it is shown to his satisfaction that a degree of safety is obtained consistent with the minimum requirements of this subpart.

**§ 98.25-10 Design and construction of cargo tanks.**

(a) The cargo tanks shall meet the requirements for Class I, I-L, II, or II-L welded pressure vessels and shall be fabricated, inspected, and tested in accordance with the applicable requirements of part 54 of subchapter F (Marine Engineering) of this chapter.

(b) Unlagged cargo tanks subject to atmospheric temperatures shall be designed for a pressure of not less than 250 pounds per square inch gage.

(c) Where unrefrigerated cargo tanks are lagged as required by §§ 98.25-30 and 98.25-60, the tanks shall be designed for

a pressure of not less than 215 pounds per square inch gage.

(d) Refrigerated cargo tanks, in which the temperature of the liquid ammonia is maintained below the normal atmospheric temperatures, shall be designed for a pressure of not less than the vapor pressure corresponding to the temperature of the liquid at which the system is to be maintained, plus 25 pounds per square inch gage.

(e) Each tank shall be provided with not less than a 15" x 18" diameter manhole, fitted with a cover located above the maximum liquid level and as close as possible to the top of the tank. Where access trunks are fitted to tanks, the diameter of the trunks shall be not less than 30 inches.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 68-82, 33 FR 18902, Dec. 18, 1968]

**§ 98.25-15 Markings.**

(a) Cargo tanks shall be marked in accordance with the requirements of § 54.10-20 of subchapter F (Marine Engineering) of this chapter.

(b) In addition to the markings required to be stamped on the tank, the legend, "Anhydrous Ammonia" shall be conspicuously and legibly marked upon the dome or upper portion of the tank in letters at least 4 inches high.

(c) All tank inlet and outlet connections, except safety relief valves, liquid level gaging devices and pressure gages shall be labeled to designate whether they terminate in the vapor or liquid space. Labels of noncorrosive material may be attached to valves.

(d) All tank markings shall be permanently and legibly stamped in a readily visible position. If the tanks are lagged, the markings attached to the tank proper shall be duplicated on a corrosion resistant plate secured to the outside jacket of the lagging.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 68-82, 33 FR 18902, Dec. 18, 1968]

**§ 98.25-20 Installation of cargo tanks.**

(a) Independent tanks shall be arranged in the vessel so as to provide a minimum clearance of not less than 24 inches from the vessel's side and not less than 15 inches from the vessel's bottom. Where more than one tank is

installed in a vessel, the distance between such tanks shall be not less than 15 inches, unless otherwise approved by the Commandant. Alternate provisions may be made for moving such tanks to provide for adequate inspection and maintenance of the vessel's structure and the tanks.

(b) The design shall show the manner in which the tanks are to be installed, supported, and secured in the vessel and shall be approved prior to installation. Tanks shall be supported in steel saddles and securely anchored in place. If the tanks are required to be stress-relieved no appendages shall be welded to the tanks after they have been stress-relieved unless authorized by the Commandant.

(c) Tanks may be located in dry cargo holds or in liquid cargo tanks or may be installed "on deck" or "under deck" with the tank protruding above deck. On installations where a portion of the tank extends above the weather deck, provision shall be made to maintain the weathertightness of the deck, except that vessels operating on protected inland waters may have tanks located in the holds of hopper type barges without the watertightness of the deck being maintained. All tanks shall be installed with the manhole opening and fittings located above the weather deck.

(d) The anhydrous ammonia tanks may be installed in the bulk liquid cargo tanks provided the liquid surrounding the enclosed anhydrous ammonia tanks complies with the following chemical and physical properties:

- (1) Boiling point above 125° F. at atmospheric pressure.
- (2) Inert to ammonia at 100° F. at atmospheric pressure.
- (3) Noncorrosive in the liquid and vapor phase to the ammonia tanks and piping.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 70-10, 35 FR 3711, Feb. 25, 1970]

**§ 98.25-30 Lagging.**

(a) Lagged tanks shall be covered with an incombustible insulation material of a thickness to provide a thermal conductance of not more than 0.075 B.t.u. per square foot per degree F. differential in temperature per hour. The

insulating material shall be of an approved type complying with the requirements of subpart 164.009 of subchapter Q (Specifications) of this chapter, and shall be given a vapor proof coating with fire retardant material acceptable to the Commandant. Tanks exposed to the weather shall have the insulation and vapor proof coating covered with a removable sheet metal jacket of not less than 0.083 inch thickness and flashed around all openings so as to be weather tight. Materials other than sheet metal may be used to cover the insulation and vapor proof coating when specifically authorized by the Commandant.

(b) Where unlagged tanks are installed in insulated holds or insulated 'tween deck spaces, such tanks shall be considered lagged provided the thermal conductance of the insulation is not less than that required by paragraph (a) of this section.

#### § 98.25-35 Refrigerated systems.

(a) Where refrigerated systems are installed to maintain the temperature of the liquid below atmospheric, at least two complete refrigeration plants automatically regulated by pressure variations within the tanks shall be provided, each to be complete with the necessary auxiliaries for proper operation. The capacity of each refrigeration compressor shall be sufficient to maintain the vapor pressure in the tanks during the peak atmospheric temperature conditions below the pressure for which the tanks are designed.

(b) An alternate arrangement may consist of three compressors, any two of which shall be capable of maintaining the vapor pressure in the tanks during peak atmospheric temperature conditions below the pressure for which the tanks are designed, the third compressor acting as a stand-by unit.

(c) Refrigerated tanks shall be insulated in conformance with the requirements of § 98.25-30.

#### § 98.25-40 Valves, fittings, and accessories.

(a) All valves, flanges, fittings and accessory equipment shall be of a type suitable for use with anhydrous ammonia and shall be made of steel, or malleable or nodular iron meeting the re-

quirements of § 56.60-1 of subchapter F (Marine Engineering) of this chapter. Valves shall be fitted with noncorrosive material suitable for ammonia service. Valves, flanges, and pipe fittings shall be of the square or round tongue and groove type or raised-face, United States of America Standard 300-pound standard minimum, fitted with suitable soft gasket material. Welded fittings shall be used wherever possible and the number of pipe joints shall be held to a minimum. Screwed joints are not permitted for pipe diameters exceeding 2 inches. Non-ferrous materials, such as copper, copper alloys and aluminum alloys, shall not be used in the construction of valves, fittings or accessory equipment. Brazed joints are prohibited.

(b) Each tank shall be provided with the necessary fill and discharge liquid and vapor shut-off valves, safety relief valves, liquid level gaging devices, thermometer well and pressure gage, and shall be provided with suitable access for convenient operation. Connections to tanks installed below the weather deck shall be made to a trunk or dome extending above the weather deck. Connections to the tanks shall be protected against mechanical damage and tampering. Other openings in the tanks, except as specifically permitted by this part, are prohibited.

(c) All connections to the tanks, except safety devices and liquid level gaging devices, shall have manually operated shut-off valves located as close to the tank as possible.

(d) Excess flow valves where required by this section shall close automatically at the rated flow of vapor or liquid as specified by the manufacturer. The piping, including valves, fittings and appurtenances, protected by an excess flow valve, shall have a greater capacity than the rated flow of the excess flow valve.

(e) Liquid level gaging devices which are so constructed that outward flow of tank contents shall not exceed that passed by a No. 54 drill size opening, need not be equipped with excess flow valves.

(f) Pressure gage connections need not be equipped with excess flow valves if the openings are not larger than No. 54 drill size.

(g) Excess flow valves may be designed with a bypass, not to exceed a No. 60 drill size opening, to allow equalization of pressure.

(h) Prior to disconnecting shore lines, the pressure in the liquid and vapor lines shall be relieved through suitable valves installed at the loading header.

(i) Relief valves shall be fitted in liquid lines which may be subject to excessive pressure caused by liquid full condition, and the escape from the relief valves shall be piped to the venting system.

(j) The pressure gage shall be located at the highest practical point. The thermometer well shall terminate in the liquid space and be attached to the shell by welding with the end of the fitting being provided with a gas-tight screwed plug or bolted cover.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 68-82, 33 FR 18902, Dec. 18, 1968; CGFR 70-10, 35 FR 3712, Feb. 25, 1970]

#### §98.25-45 Liquid level gaging device.

(a) Each tank shall be fitted with a liquid level gaging device of suitable design to indicate the maximum level to which the tank may be filled with liquid at temperatures between 20° F. and 130° F.

(b) Liquid level gaging devices shall be of the following types: magnetic, rotary tube, slip tube, fixed tube, automatic float, or other types acceptable to the Commandant.

(c) Gaging devices that require bleeding of the product to the atmosphere, such as rotary tube, fixed tube, and slip tube, shall be so designed that the bleed valve maximum opening is not larger than a No. 54 drill size, unless provided with an excess flow valve.

(d) Gaging devices shall have a design pressure of at least 250 pounds per square inch.

(e) Gage glasses of the columnar type are prohibited.

#### §98.25-50 Filling and discharge pipes.

(a) Filling connections shall be provided with one of the following:

(1) Combination back pressure check valve and excess flow valve;

(2) One double or two single back pressure check valves; or

(3) A positive shut-off valve in conjunction with either an internal back pressure check valve or an internal excess flow valve.

(b) All other liquid and vapor connections to tanks, except filling connections, safety relief valves, and liquid level gaging devices and pressure gages described in §98.25-40(e) and (f) shall be equipped with automatic excess flow valves; or in lieu thereof, may be fitted with quick closing internal stop valves, which, except during filling and discharge operations, shall remain closed. The control mechanism for such valves shall be provided with a secondary remote control of a type acceptable to the Commandant.

(c) The excess flow, internal stop or back pressure check valves shall be located on the inside of the tank or outside where the piping enters the tank. In the latter case, installation shall be made in such a manner that any undue strain will not cause breakage between the tank and the excess flow or internal stop valve.

(d) Where the filling and discharge are made through a common nozzle at the tank, and the connection is fitted with a quick-closing internal stop valve as permitted in paragraph (b) of this section, the back pressure check valve or excess flow valve is not required, provided, however, a positive shut-off valve is installed in conjunction with the internal stop valve.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 70-10, 35 FR 3712, Feb. 25, 1970]

#### §98.25-55 Cargo piping.

(a) Piping shall be of seamless steel meeting the requirements of §56.60-1 of subchapter F (Marine Engineering) of this chapter. The piping shall be of not less than Schedule 40 thickness. In case of piping on the discharge side of the liquid pumps or vapor compressors, the design shall be for a pressure of not less than the pump or compressor relief valve setting; or if the piping is not fitted with relief valves, the design pressure shall not be less than the total discharge head of the pump or compressor.

(b) Where necessary, provision shall be made for expansion and contraction of piping by means of seamless steel

pipe expansion bends. Special consideration will be given for packless type expansion joints. Slip type expansion joints are prohibited. Piping shall be provided with adequate support to take the weight of the piping off the valves and fittings.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 68-82, 33 FR 18902, Dec. 18, 1968]

§98.25-60 Safety relief valves.

(a) Each tank shall be fitted with two or more approved safety relief valves, designed, constructed, and flow-tested for capacity in conformance with subpart 162.018 of subchapter Q (Specifications) of this chapter.

(b) Each safety relief valve shall start to discharge at a pressure not in excess of the design pressure of the tank.

(c) Safety relief valves shall be attached to the tank near the highest point of the vapor space. Shutoff valves shall not be installed between the tanks and the safety relief valves, except manifolds for mounting multiple safety relief valves may be fitted with acceptable interlocking three-way valves so arranged at all times as to permit at any position of the three-way valve, an unrestricted flow of vapors through at least one port. When two safety relief valves are mounted in parallel on both the upper outlets of the three-way valve, the arrangement shall be such as to permit at least one safety relief valve to be operative at all times.

(d) Each safety valve shall be tested in the presence of a marine inspector at the site of installation before or after mounting prior to being placed in service. The tests shall prove that the safety relief valve will start to discharge at a pressure not in excess of the maximum allowable pressure of the tank.

[CGFR 68-82, 33 FR 18902, Dec. 18, 1968]

§98.25-65 Filling density.

(a) The filling density, or the percent ratio of the liquefied gas that may be loaded in the tank to the weight of the water the tank will hold at 60° F., shall not exceed 56 percent for unlagged

tanks and 58 percent for lagged or refrigerated tanks.

§98.25-70 Venting.

(a) Except as provided in paragraph (b) of this section, each safety valve installed on a cargo tank shall be connected to a branch vent of a venting system which shall be constructed so that the discharge of gas will be directed vertically upward to a point at least 10 feet above the weather deck or the top of any tank or house located above the weather deck.

(b) The capacity of branch vents or vent headers shall depend upon the number of cargo tanks connected to such branch or header as provided in Table 98.25-70(b).

TABLE 98.25-70(b)—CAPACITY OF BRANCH VENTS OR VENT HEADERS

Number of cargo tanks	Percent of total valve discharge
1 or 2 .....	100
3 .....	80
4 .....	80
5 .....	70
6 or more .....	60

(c) In addition to the requirement specified in paragraph (b) of this section, the size of the branch vents or vent headers shall be such that the back pressure in relief valve discharge lines shall not be more than 10 percent of the safety relief valve setting.

(d) Return bends and restrictive pipe fittings are prohibited. Vents and headers shall be so installed as to prevent stresses on safety relief valve mountings.

(e) When vent discharge risers are installed, they shall be so located as to provide protection against physical damage and be fitted with loose raincaps.

(f) No shut-off valve shall be fitted in the venting system between the safety relief valve and the vent outlets. Suitable provision shall be made for draining the venting system if liquid can collect therein.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 70-10, 35 FR 3712, Feb. 25, 1970; 35 FR 6431, Apr. 22, 1970]

**§ 98.25-75 Ventilation.**

(a) All enclosed spaces containing cargo tanks fitted with bottom outlet connections shall be provided with mechanical ventilation of sufficient capacity to assure a change of air every 3 minutes. Where cargo tanks are fitted with top outlet connections, the enclosed spaces containing such tanks shall be fitted with efficient natural or mechanical ventilation.

(b) Enclosed compartments in which machinery such as cargo pumps or vapor compressors are located shall be adequately ventilated.

**§ 98.25-80 Cargo hose.**

(a) Cargo hose fabricated of seamless steel pipe with swivel joints, wire braided armored rubber or other hose material acceptable to the Commandant, shall be fitted to the liquid or vapor lines during filling and discharging of the cargo tanks.

(b) Hose subject to tank pressure shall be designed for a bursting pressure of not less than five times the maximum safety relief valve setting of the tank.

(c) Hose subject to discharge pressure of pumps or vapor compressors shall be designed for a bursting pressure of not less than five times the pressure of setting of the pump or compressor relief valve.

(d) Before being placed in service, each new cargo hose, with all necessary fittings attached, shall be hydrostatically tested by the manufacturer to a pressure of not less than twice the maximum pressure to which it may be subjected in service. The hose shall be marked with the maximum pressure guaranteed by the manufacturer.

**§ 98.25-85 Electrical bonding.**

(a) Each cargo tank shall be electrically grounded to the hull. The cargo vessel shall be electrically connected to the shore piping prior to connecting the cargo hose. This electrical connection shall be maintained until after the cargo hose has been dis-

connected and any spillage has been removed.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 70-10, 35 FR 3712, Feb. 25, 1970]

**§ 98.25-90 Special operating requirements.**

(a) Repairs involving welding or burning shall not be undertaken on the cargo tanks or piping while anhydrous ammonia in either the liquid or vapor state is present in the system.

(b) During the time anhydrous ammonia is laden in the tanks the vessel shall be under constant surveillance.

(c) Authorization from the Commandant (G-MOS) shall be obtained to transport lading other than anhydrous ammonia in the cargo tanks.

(d) Sufficient hose stations shall be installed with adequate water supply so that if leakage of anhydrous ammonia occurs the vapors may be removed by use of a stream of water.

(e) (1) At least two units of approved self-contained breathing apparatus, one stowed forward of the cargo tanks and one stowed aft of the cargo tanks, shall be carried on board the vessel at all times.

(2) All approved self-contained breathing apparatus, masks and respiratory protective devices shall be of types suitable for starting and operating at the temperatures encountered, and shall be maintained in good operating condition.

(3) Personnel involved in the filling or discharge operations shall be adequately trained in the use of the equipment.

(4) For all self-propelled cargo vessels, during filling or discharge operations every person on the vessel shall carry on his person or have close at hand at all times a canister mask approved for ammonia; or each person shall carry on his person a respiratory protective device which will protect the wearer against ammonia vapors and provide respiratory protection for emergency escape from a contaminated area which would result from cargo leakage. This respiratory protective equipment shall be of such size and weight that the person wearing it will

not be restricted in movement or in the wearing of lifesaving device.

(f) While fast to a dock, a vessel during transfer of bulk cargo shall display a red flag by day or a red light by night, which signal shall be so placed that it will be visible on all sides. When at anchor, a vessel during transfer of bulk cargo shall display a red flag by day, which signal shall be so placed that it will be visible on all sides.

[CGFR 70-10, 35 FR 3712, Feb. 25, 1970, as amended by CGD 82-063b, 48 FR 4781, Feb. 3, 1983; CGD 95-072, 60 FR 50464, Sept. 29, 1995]

#### § 98.25-95 Tests and inspections.

(a) Each tank shall be subjected to the tests and inspections described in this section in the presence of a marine inspector, except as otherwise provided in this part.

(1) An internal inspection of the tank is conducted within—

(i) Ten years after the last internal inspection if the tank is a pressure-vessel type cargo tank on an unmanned barge described under § 151.01-25(c) of this chapter and carrying cargo at temperatures of  $-67^{\circ}\text{F}$  ( $-55^{\circ}\text{C}$ ) or warmer; or

(ii) Eight years after the last internal inspection if the tank is of a type other than that described in paragraph (a)(1)(i) of this section.

(2) An external examination of unlagged tanks and the visible parts of lagged tanks is made at each biennial inspection. The owner shall ensure that the amount of insulation deemed necessary by the marine inspector is removed from insulated tanks during each internal inspection to allow spot external examination of the tanks and insulation, or the thickness of the tanks may be gauged by a non-destructive means accepted by the marine inspector without the removal of insulation.

(3) If required by the Officer in Charge, Marine Inspection the owner shall conduct nondestructive testing of each tank in accordance with § 98.25-97.

(4) If the tank is a pressure vessel type cargo tank with an internal inspection interval of 10 years, and is 30 years old or older, determined from the date it was built, the owner shall conduct nondestructive testing of each

tank in accordance with § 98.25-97, during each internal inspection.

(b) A hydrostatic test of  $1\frac{1}{2}$  times the maximum allowable pressure as determined by the safety relief valve setting shall be made at any time that the inspector considers such hydrostatic test necessary to determine the condition of the tank. If the jacket and lagging are not removed during the hydrostatic tests prescribed in this paragraph, the tank shall hold the hydrostatic test pressure for at least 20 minutes without a pressure drop.

(c) The safety relief valves shall be popped in the presence of a marine inspector by either liquid, gas or vapor pressure at least once every four years to determine the accuracy of adjustment and, if necessary, shall be reset.

[CGFR 65-50, 30 FR 17022, Dec. 30, 1965, as amended by CGFR 67-86, 32 FR 17622, Dec. 9, 1967; CGD 85-061, 54 FR 50965, Dec. 11, 1989]

#### § 98.25-97 Nondestructive testing.

(a) Before nondestructive testing may be conducted to meet § 98.25-95(a) (3) and (4), the owner shall submit a proposal to the Officer in Charge, Marine Inspection for approval that includes—

(1) The test methods and procedures to be used, all of which must meet section V of the ASME Boiler and Pressure Vessel Code (1986);

(2) Each location on the tank to be tested; and

(3) The test method and procedure to be conducted at each location on the tank.

(b) If the Officer in Charge, Marine Inspection rejects the proposal, the Officer in Charge, Marine Inspection informs the owner of the reasons why the proposal is rejected.

(c) If the Officer in Charge, Marine Inspection accepts the proposal, then the owner shall ensure that—

(1) The proposal is followed; and

(2) Nondestructive testing is performed by personnel meeting ASNT "Recommended Practice No. SNT-TC-1A (1988), Personnel Qualifications and Certification in Nondestructive Testing."

(d) Within 30 days after completing the nondestructive test, the owner shall submit a written report of the re-



sults to the Officer in Charge, Marine Inspection.

[CGD 85-061, 54 FR 50965, Dec. 11, 1989]

**Subpart 98.30—Portable Tanks**

SOURCE: CGD 73-172, 39 FR 22954, June 25, 1974, unless otherwise noted.

**§98.30-1 Applicability.**

(a) This subpart contains regulations concerning transfer of combustible liquids, certain flammable liquids, and other hazardous materials to or from portable tanks on vessels.

(b) This subpart applies to the following portable tanks:

(1) A marine portable tank (MPT);

(2) An IM 101 or IM 102 portable tank; and

(3) A portable tank authorized for liquid hazardous materials, other than liquefied gases, by the Director, Office of Hazardous Materials Transportation (OHMT), under an exemption issued in accordance with subpart B of 49 CFR part 107.

[CGD 84-043, 55 FR 37411, Sept. 11, 1990]

**§98.30-2 Definitions.**

(a) *IM 101 portable tank* and *IM 102 portable tank* mean a portable tank constructed in accordance with 49 CFR 178.270 through 178.272 and approved under 49 CFR 173.32a.

(b) *MPT* means a marine portable tank that was inspected and stamped by the Coast Guard on or before September 30, 1992, and that meets the applicable requirements in this part and part 64 of this chapter.

[CGD 84-043, 55 FR 37411, Sept. 11, 1990]

**§98.30-3 Vessels carrying MPTs.**

Each MPT on a vessel to which this part applies must bear, on a metal or other corrosion-resistant tag—

(a) An inspection date for pressure relief devices and vacuum relief devices in accordance with paragraph (b) of §64.79 of this chapter that is not more than 12 months earlier than the month in which the vessel is operated;

(b) An inspection date in accordance with paragraph (b) of §64.81 of this chapter that is not more than 30 months earlier than the month during which the vessel is operated; and

(c) A hydrostatic test date in accordance with paragraph (b) of §64.83 of this chapter that is not more than 60 months earlier than the month during which the vessel is operated.

[CGD 84-043, 55 FR 37411, Sept. 11, 1990]

**§98.30-4 Vessels carrying portable tanks other than MPTs.**

(a) Each portable tank, other than an MPT, on board a vessel to which this part applies must be one of the following:

(1) An IM 101 or IM 102 tank authorized for its contents in accordance with 49 CFR part 173 under the conditions set forth in the IM Tank Table, January 1, 1981, with errata sheet effective May 1, 1981;<sup>1</sup> or

(2) A portable tank authorized by the Director, OHMS, under an exemption issued in accordance with subpart B of 49 CFR part 107, and

(i) According to the terms of the exemption, equivalent to an IM 101 or IM 102 portable tank; and

(ii) Authorized for its contents under the terms of the exemption or by written acknowledgment from the Director, OHMT.

(b) Each IM 101 or IM 102 portable tank must be tested and inspected in accordance with 49 CFR 173.32b, and used only as specified in 49 CFR 173.32c.

(c) Each portable tank authorized under an exemption from the Director, OHMT, must be inspected and tested, maintained, and used in accordance with the terms of that exemption.

[CGD 84-043, 55 FR 37411, Sept. 11, 1990; 56 FR 13598, Apr. 3, 1991, as amended by CGD 95-072, 60 FR 50464, Sept. 29, 1995]

**§98.30-5 Materials authorized for transfer to and from a portable tank.**

(a) The following hazardous materials may be transferred to and from a portable tank under this subpart:

(1) Any Grade D or Grade E combustible liquid listed in §30.25-1 of this chapter that does not meet the definition of any hazard class in 49 CFR part 173 other than that of "flammable liq-

<sup>1</sup>The IM Tank Table may be obtained from Commandant (G-MOS), U.S. Coast Guard, Washington, DC 20593-0001.

uid", "combustible liquid", or "ORM-E";

(2) Any corrosive liquid that—

(i) Is compatible with the materials of the tank;

(ii) Meets the definition of no other hazard class in 49 CFR part 173; and

(iii) Is authorized for transport in an IM 101 or IM 102 portable tank under subpart F of 49 CFR part 173;

(3) Any hazardous material listed in Table 98.30-5(a);

(4) Any liquid hazardous substance classed under 49 CFR part 172 as Class "ORM-E" and listed in the appendix to 49 CFR Table 172.101, and any aqueous solution of a solid hazardous substance classed as ORM-E and listed in that appendix; and

(5) Other cargoes subject to regulation under 49 CFR parts 171 through 176 when authorized in writing by the Commandant. Requests for such authorization must be submitted as prescribed in § 153.900(d)(1) of this chapter.

TABLE 98.30-5(a) CERTAIN HAZARDOUS MATERIALS AUTHORIZED FOR TRANSFER TO AND FROM PORTABLE TANKS

Acetone  
Alcohols; flash point of 80 °F (27 °C) or less by open-cup test  
Benzene  
Gasoline  
Mixtures of Hydrochloric acid and hydrofluoric acid containing not more than 36 percent hydrochloric acid or 2 percent hydrofluoric acid<sup>1</sup>  
Methyl Ethyl Ketone  
Toluene (Toluol)

NOTE:

<sup>1</sup> Each MPT must be lined with rubber or with material equally acid-resistant and equally strong and durable.

(b) Grade D and Grade E combustible liquids with a flash point of 100 °F (38 °C) or higher by closed-cup test that are not listed by name in the IM Tank Table may be transferred to and from an MPT or an IM 102 portable tank conforming to the entry in the IM Tank Table for "Combustible liquid, not listed by name in this table."

(c) Sulfuric acid having a concentration of not over 51 percent may be transferred to or from an MPT only if the MPT is lined with rubber or with material equally acid-resistant and equally strong and durable.

(d) Sulfuric acid having a concentration of 65.25 percent or greater may be transferred to or from any portable tank; *provided* that the corrosion rate

on steel, measured at 100 °F (38 °C), of sulfuric acid having a concentration of greater than 65.25 percent is not greater than the corrosion rate of such an acid having a concentration of 65.25 percent.

(e) Liquids classed as ORM-E may be transferred only to or from an IM 101 or IM 102 portable tank or an MPT.

(f) A hazardous material that may be transferred to and from an IM 102 portable tank may also be transferred to and from an IM 101 portable tank.

(g) No hazardous material not referred to in this section may be transferred to or from a portable tank on board a vessel.

[CGD 84-043, 55 FR 37411, Sept. 11, 1990; 55 FR 40755, Oct. 4, 1990]

#### § 98.30-6 Lifting a portable tank.

No person may lift a portable tank with another portable tank.

[CGD 73-172, 39 FR 22954, June 25, 1974. Redesignated by CGD 84-043, 55 FR 37411, Sept. 11, 1990]

#### § 98.30-7 Smoking.

No person may smoke within 50 feet of a portable tank on the deck on which the tank is stowed.

#### § 98.30-8 Gaskets and lining.

No person may transfer a hazardous material to or from a portable tank on board a vessel unless each gasket and the lining of the portable tank are made of a material that is—

(a) Chemically compatible with the product for which the portable tank is approved; and

(b) Resistant to deterioration by the product for which the portable tank is approved.

[CGD 84-043, 55 FR 37412, Sept. 11, 1990]

#### § 98.30-9 Stowage of portable tanks.

(a) No person may operate a vessel to which this subpart applies unless each portable tank is stowed on an open deck.

(b) No person may stow a portable tank—

(1) In the vicinity of another tank that contains a chemically incompatible product; and

(2) Unless all electrical equipment is explosion-proof or intrinsically safe, as

defined in §§111.105-9 and 111.105-11 of this chapter, in the area of the tank and its associated equipment that is—

(i) Within 10 feet in any horizontal direction; and

(ii) Within 8 feet above the deck.

[CGD 73-172, 39 FR 22954, June 25, 1974, as amended by CGD 84-043, 55 FR 37412, Sept. 11, 1990; 55 FR 47477, Nov. 14, 1990]

**§98.30-10 Pipe connections, and filling and discharge openings.**

No person may transfer a hazardous material to or from a portable tank on board a vessel, unless each filling and discharge opening in the tank bottom is equipped with the following:

(a) For an IM 101 or IM 102 portable tank, the closures specified in 49 CFR 173.32c(g)(2); and

(b) For an MPT, the valves and closures specified in §§64.33 through 64.41 of this chapter.

[CGD 84-043, 55 FR 37412, Sept. 11, 1990]

**§98.30-11 Cargo pumps.**

No person may operate a cargo pump to transfer a product to or from a portable tank unless the pump is installed—

(a) Above deck; or

(b) Below deck, in conformance with subpart 32.60 of this chapter.

**§98.30-13 Ground connection.**

No person may transfer an inflammable or combustible product to or from a vessel unless—

(a) The portable tank and its pumping equipment is electrically grounded to the hull of the vessel; and

(b) The vessel is electrically grounded to an offshore platform, shore piping, or another vessel by a—

(1) Cargo hose constructed with an integral grounding wire if the end connections are used for electrical continuity; or

(2) Separate grounding that is maintained until the cargo hose is disconnected and drained.

**§98.30-14 Requirements for ships carrying NLSs in portable tanks.**

(a) The person in charge of a ship, except a ship under subpart 98.31 of this chapter, that carries an NLS in a portable tank shall ensure that—

(1) The ship's Certificate of Inspection is endorsed with the name of the NLS;

(2) Any letters issued by the Commandant (G-MOS) prescribing additional conditions for endorsement are attached; and

(3) Each operating requirement specified in writing by Commandant (G-MOS) as a condition for endorsement is met.

(b) To have a ship's Certificate of Inspection endorsed to allow the carriage of NLSs in portable tanks, the—

(1) Owner of the ship must make a request to the Commandant (G-MOS) following the procedures for requesting alternatives in §153.10(a) of this chapter; and

(2) The ship must meet any design and equipment requirements specified in writing as a condition for the endorsement by the Commandant (G-MOS).

[CGD 81-101, 53 FR 28974, Aug. 1, 1988. Redesignated at CGD 84-043, 55 FR 37411, Sept. 11, 1990, and amended by CGD 84-043, 55 FR 37412, Sept. 11, 1990; CGD 95-072, 60 FR 50464, Sept. 29, 1995]

**§98.30-15 Leakage containment.**

(a) No person may transfer a product to or from a vessel unless there is a container or enclosed deck area that meets the requirements of this section under or around each transfer connection area.

(b) Each container or enclosed deck area must hold, in all conditions of vessel list or trim to be encountered during the transferring operation, 5 gallons or more and must have a means of draining or removing any leakage without mixing incompatible products or discharging into the water.

**§98.30-17 Qualifications of person in charge.**

(a) The operator or agent of each vessel shall designate the person in charge of a transfer of liquid cargo in bulk to or from a portable tank.

(b) Each person designated as person in charge of a transfer of liquid cargo in bulk to or from a portable tank shall—

(1) On a tank barge, hold a "Tankerman-PIC", restricted "Tankerman-PIC", "Tankerman-PIC"

(Barge)", or restricted "Tankerman-PIC (Barge)" merchant mariner's document authorizing transfer of the classification of cargo involved;

(2) On a self-propelled tank vessel, hold—

(i) A license authorizing service as a master, mate, pilot, operator, or engineer aboard that vessel; and

(ii) A "Tankerman-PIC" or restricted "Tankerman-PIC" merchant mariner's document authorizing transfer of the classification of cargo involved; and

(3) On a vessel other than a tank vessel required by this chapter to have a licensed individual aboard, hold—

(i) If the liquid cargo in bulk is of Grade D or E and is carried in limited amounts, a license authorizing service as a master, mate, pilot, operator, or engineer aboard that vessel; and

(ii) If the liquid cargo in bulk is of Grade C or above or is regulated under part 153 of this chapter, a "Tankerman-PIC" or restricted "Tankerman-PIC" merchant mariner's document authorizing transfer of the classification of cargo involved.

[CGD 79-116, 60 FR 17157, Apr. 4, 1995]

EFFECTIVE DATE NOTE: At 60 FR 17157, Apr. 4, 1995, § 98.30-17 was revised effective March 31, 1996. For the convenience of the reader the superseded text is set forth below.

#### § 98.30-17

##### Qualifications of person in charge.

No person may serve, and the operator of a vessel may not use the services of a person, as the person in charge of the transfer of a product to and from a portable tank unless—

(a) On self-propelled tank vessels, he holds a valid license authorizing service on inspected vessels as a master, mate, pilot, or engineer;

(b) For tank barges, he holds a valid license authorizing service on inspected vessels as a master, mate, engineer, or is a tankerman certificated for the grade of cargo carried;

(c) For vessels other than tank vessels that are required by this chapter to have a licensed officer on board, he holds a valid license as a master, mate, pilot, or engineer;

(d) For other inspected vessels not specified in paragraphs (a), (b), and (c) of this section he holds a valid tankerman's endorsement on a merchant mariner's document; or

(e) For foreign vessels he holds a license or certificate authorizing service on that vessel as a master, mate, pilot, engineer, or operator.

#### § 98.30-19 Supervision by person in charge.

(a) No person may connect, top off, disconnect, or engage in any other critical product transfer operation unless the person in charge designated in § 98.30-17, personally supervises the operation.

(b) No person may start the flow of a product to or from a portable tank unless instructed to do so by the person in charge.

(c) No person may transfer a product to or from a portable tank unless the person in charge is in the immediate vicinity of the transfer operation and immediately available to the person transferring the product.

#### § 98.30-21 Inspection prior to transfer.

No person may transfer to or from a portable tank a product with a flashpoint of less than 300° F unless the person in charge of the transfer determines that—

(a) Each warning signal and sign required in §§ 98.30-33 and 98.30-35 is displayed;

(b) No repair work in the vicinity of any portable tank is done without permission of the person in charge of the transfer operation; and

(c) Riveting, welding, burning, or a similar operation is not done in the vicinity of a portable tank unless an inspection by the person in charge of the transfer ensures that the operation can be done safely.

#### § 98.30-23 Requirements for transfer; general.

No person may transfer a product to or from a portable tank unless—

(a) The vessel's moorings are strong enough to hold in all expected conditions of surge, current, and weather and are long enough to allow adjustment for changes in draft, drift, and tide during the transfer operation;

(b) Transfer hoses or loading arms are long enough to allow the vessel to move the limits of its mooring without placing strain on the hose, loading arm, or transfer piping system;

(c) Each transfer hose is supported in a manner that prevents strain on its coupling;

(d) Each part of the transfer system necessary to allow the flow of the product is lined up for the transfer;

(e) Each transfer hose has no loose covers, kinks, bulges, soft spots, and no gouges, cuts, or slashes that penetrate the hose reinforcement;

(f) Each coupling meets the requirements of §98.30-27;

(g) Each scupper or drain in a discharge containment system is closed;

(h) The person in charge of the transfer operations on the transferring vessel or facility and the person in charge of the transfer operations on the receiving vessel or facility have held a conference, to ensure that each person in charge understands—

(1) The identity of the product to be transferred;

(2) The sequence of transfer operations;

(3) The transfer rate;

(4) The name or title and location of each person participating in the transfer operation;

(5) Particulars of the transferring and receiving systems;

(6) Critical stages of the transfer operations;

(7) Federal, state, and local rules that apply to the transfer of dangerous articles and combustible liquids;

(8) Emergency procedures;

(9) Discharge containment procedures;

(10) Discharge reporting procedures;

(11) Watch or shift arrangement; and

(12) Transfer shutdown procedures;

(i) The person in charge of the transfer operations on the transferring vessel or facility and the person in charge of transfer operations on the receiving vessel or facility agree to begin the transfer operations; and

(j) Each person in charge required in this subpart is present.

**§98.30-25 Requirements for transfer; cargo handling system.**

No person may transfer a product to or from a portable tank unless the cargo handling system meets the requirements in subpart F of part 64 of this chapter.

**§98.30-27 Connections.**

(a) Each person who makes a connection for a transfer operation shall—

(1) Use suitable material in joints and couplings to make a tight seal;

(2) Use a bolt in at least every other hole and in no case less than four bolts in each temporary connection utilizing an American National Standards Institute (ANSI) standard flange coupling;

(3) Use a bolt in each hole of couplings other than ANSI standard flange couplings;

(4) Use a bolt in each hole of each permanently connected flange coupling;

(5) Use bolts of the same size in each bolted coupling; and

(6) Tighten each bolt and nut uniformly to distribute the load.

(b) No person who makes a connection for a transfer operation may use any bolt that shows signs of strain or is elongated or deteriorated.

(c) No person may use a connection for transfer operations unless it is—

(1) A bolted or full threaded connection; or

(2) A quick-connect coupling accepted by the Coast Guard.

**§98.30-29 Piping incompatible products.**

No person may pipe a portable tank with another tank that contains a chemically incompatible product.

**§98.30-31 Conditions for pumping.**

No person may start pumping a product to or from a portable tank or if started, continue to pump if—

(a) There is an electrical storm;

(b) A fire occurs—

(1) On the deck;

(2) On the vessel;

(3) In the vicinity; or

(c) The cargo hose ruptures or leaks.

**§98.30-33 Warning signals.**

(a) If the vessel is moored, no person may transfer to or from a portable tank a product with a flashpoint of less than 300° F unless the person in charge displays a—

(1) Red flag by day; and

(2) Red electric lantern by night.

(b) If the vessel is at anchor, no person may transfer to or from a portable tank a product with a flashpoint of less than 300° F unless the person in charge displays a red flag.

(c) The signal required in paragraphs (a) and (b) of this section must be visible on all sides of the vessel.

**§ 98.30-35 Warning sign at gangway.**

If a vessel is moored, no person may transfer to or from a portable tank a product with a flashpoint of less than 300° F unless the person in charge displays at each gangway or access that is open for use a warning placard containing the following in letters 2 inches in height or larger:

**WARNING**

No open lights

No smoking

**§ 98.30-37 Firefighting requirements.**

No person may lift a portable tank on or off a vessel, or transfer a product with a flashpoint of less than 300° F to or from a portable tank unless—

(a) Water pressure is maintained on the firemain;

(b) Firehoses, fitted with a Coast Guard approved combination nozzle, are attached to each fire hydrant in the vicinity of the portable tanks;

(c) Except as provided in §98.30-39, fire extinguishers of a dry chemical type are—

(1) Located to protect the deck area 10 feet in any horizontal direction from each portable tank and its associated cargo handling system;

(2) Coast Guard approved; and

(3) Capable of covering the deck area without being moved;

(d) In a deck area of 500 square feet or less, there are 2 or more dry chemical fire extinguishers of 300 pounds or more total capacity of extinguishing agent; and

(e) In a deck area of more than 500 square feet, there are 3 or more dry chemical fire extinguishers of 450 pounds or more total capacity of extinguishing agent.

**§ 98.30-39 Alternate fire extinguishing system.**

An alternative to the fire extinguishing system required in §98.30-37(c) may be approved in accordance with procedures contained in subpart 90.15 of this chapter.

**Subpart 98.31—Control of Pollution From NLS Cargoes on Ocean-going Offshore Supply Vessels**

SOURCE: CGD 81-101, 52 FR 7776, Mar. 12, 1987, unless otherwise noted.

**§ 98.31-5 Applicability.**

This subpart applies to offshore supply vessels that are oceangoing as defined in 33 CFR 151.05(j) and that carry noxious liquid substances (NLSs) as defined in §153.2 of this chapter in bulk, including carriage in portable tanks.

[CGD 81-101, 52 FR 7776, Mar. 12, 1987, as amended by CGD 84-043, 55 FR 37412, Sept. 11, 1990]

**§ 98.31-10 Certificate of inspection and NLS certificate endorsements.**

(a) The Coast Guard issues the endorsed Certificate of Inspection or NLS Certificate required by §98.31-15 for vessels under this subpart to carry NLSs if the vessel—

(1) Has the Cargo Record Book prescribed in §153.490(a)(1) of this chapter; and

(2) Unless it discharges no NLS residues as defined in §153.2 of this chapter to the sea, meets the requirements in §§153.470 through 153.491 of this chapter.

(b) Vessels under this subpart that do not meet the requirements in §§153.470 through 153.491 of this chapter have a statement on their Certificates of Inspection or NLS Certificates stating that the vessel is prohibited from discharging NLS residues to the sea.

**§ 98.31-15 Operating requirements.**

No person may operate a vessel that carries a bulk liquid cargo of NLS unless the vessel—

(a) Has on board a Certificate of Inspection and for ships making foreign voyages an NLS Certificate endorsed under §98.31-10 with the name of the NLS cargo;

(b) Discharges no NLS residue to the sea unless the vessel meets—

(1) The equipment requirements in §98.31-10(a)(2); and

(2) The operating requirements prescribed for oceangoing ships carrying NLSs in §§153.901, 153.903, 153.909, and 153.1100 through 153.1132 of this chapter.

## Subpart 98.33—Portable Tanks for Certain Grade E Combustible Liquids and Other Regulated Materials

SOURCE: CGD 84-043, 55 FR 37412, Sept. 11, 1990, unless otherwise noted.

### §98.33-1 Applicability.

(a) This subpart contains regulations concerning transfer of certain low-hazard materials to and from portable tanks on vessels

(b) This subpart applies to the following portable tanks:

(1) A DOT-specification 57 portable tank (see 49 CFR 173.24, 173.32, 178.251, and 178.253);

(2) A portable tank authorized under 49 CFR 176.340(a)(2); and

(3) A portable tank approved by the Commandant under subpart 50.20 of this chapter.

[CGD 84-043, 55 FR 37412, Sept. 11, 1990; 56 FR 13598, Apr. 3, 1991]

### §98.33-3 Cargoes authorized.

The following cargoes are authorized for transfer to and from portable tanks authorized by §98.33-5:

(a) Grade E combustible liquids that have a closed-cup flashpoint of 300 °F or higher and that meet the definition of no DOT hazard class in 49 CFR part 173 except hazardous substance "ORM-E");

(b) Materials and aqueous solutions of them that meet the definition of hazardous substance in 49 CFR 171.8 and that are of DOT Hazard Class ORM-E (see appendix to 49 CFR 172.101; see 49 CFR part 173, subpart J); and

(c) Other cargoes subject to regulation under 49 CFR parts 171 through 176 when authorized in writing by the Commandant. Requests for such authorization must be submitted as prescribed in §153.900(d)(1) of this chapter.

### §98.33-5 Portable tanks authorized.

The cargoes authorized under §98.33-3 may be transferred to and from portable tanks to which this subpart applies if the portable tanks have:

(a) A minimum design pressure of 9 psig.

(b) Pressure-relief devices that may be frangible pressure-relief devices

(rupture disks), and that do not open at less than 3 psig.

[CGD 84-043, 55 FR 37412, Sept. 11, 1990; 55 FR 47477, Nov. 14, 1990]

### §98.33-7 Pipe and hose connections.

If a portable tank authorized under §98.33-5 of this part has a pipe or hose connection in its bottom, the connection must have a manually operated valve and a bolted flange, threaded cap, or similar device, to protect against leakage of the tank's contents.

### §98.33-9 Stowage.

Each portable tank authorized under §98.33-5 of this part must be secured to the vessel by devices of sufficient strength and number to prevent the tank from moving in any direction during transport.

### §98.33-11 Smoking.

No person may smoke when—

(a) Within 50 feet of a portable tank containing a combustible liquid; and

(b) On the deck where the tank is stowed.

### §98.33-13 Cargo-handling systems.

A cargo authorized under §98.33-3 of this part may not be transferred to or from a portable tank authorized under §98.33-5 of this part unless the cargo-handling system meets the requirements of subpart F of part 64 of this chapter.

### §98.33-15 Transfers.

A cargo authorized under §98.33-3 of this part may not be transferred to or from a portable tank authorized under §98.33-5 of this part unless the following requirements are met:

(a) *Cargo pumps* comply with §98.30-11 of this part;

(b) *Ground connection* complies with §98.30-13 of this part;

(c) *Leakage containment* complies with §98.30-15 of this part;

(d) *Qualification of person in charge* complies with §98.30-17 of this part;

(e) *Supervision of person in charge* complies with §98.30-19 of this part;

(f) *Transfers, general*, comply with §98.30-23 of this part;

(g) *Connections* comply with §98.30-27 of this part;

(h) Pumping of incompatible products complies with §98.30-29 of this part;

(i) Conditions for pumping comply with §98.30-31 of this part; and

(j) *Carriage of NLSs* complies with §98.30-14 of this part.

[CGD 84-043, 55 FR 37412, Sept. 11, 1990; 55 FR 47477, Nov. 14, 1990]

## **PART 105—COMMERCIAL FISHING VESSELS DISPENSING PETROLEUM PRODUCTS**

### **Subpart 105.01—Administration**

Sec.

105.01-1 Purpose.

105.01-5 Intent of Pub. L. 90-397 (approved July 11, 1968, 82 Stat. 341) and Pub. L. 93-430 (approved October 1, 1974, 88 Stat. 1180).

105.01-10 Effective date of regulations.

### **Subpart 105.05—Application**

105.05-1 Commercial fishing vessels dispensing petroleum products.

105.05-2 Prohibitions regarding petroleum products.

105.05-3 New vessels and existing vessels for the purpose of application of regulations in this part.

105.05-5 Types of vessels.

105.05-10 Intent of regulations.

### **Subpart 105.10—Definition of Terms Used in This Part**

105.10-1 General.

105.10-5 Approved.

105.10-10 Combustible liquid.

105.10-15 Flammable liquid.

105.10-20 Pressure vacuum relief valve.

105.10-25 Commercial fishing vessel.

### **Subpart 105.15—Inspection Required**

105.15-1 General.

105.15-5 Authority of marine inspectors.

105.15-10 Application for inspection.

105.15-15 Letter of compliance.

105.15-20 Exhibition of letter of compliance.

### **Subpart 105.20—Specific Requirements—Cargo Tanks**

105.20-1 Plans and/or sketches.

105.20-3 Cargo tanks.

105.20-5 Piping systems.

105.20-10 Pumps.

105.20-15 Grounding.

### **Subpart 105.25—Additional Requirements—When Cargo Tanks Are Installed Below Decks**

105.25-1 General requirements.

105.25-5 Compartments or areas containing cargo tanks or pumping systems.

105.25-7 Ventilation systems for cargo tank or pumping system compartment.

105.25-10 Cargo pumping installation.

105.25-15 Spacings around tanks.

105.25-20 Shutoff valves required.

### **Subpart 105.30—Electrical Requirements**

105.30-1 Electrical fittings and fixtures.

105.30-5 Grounding of electrical equipment.

### **Subpart 105.35—Fire Extinguishing Equipment**

105.35-1 General.

105.35-5 Fire pumps.

105.35-10 Fire main system.

105.35-15 Fire hose.

### **Subpart 105.45—Special Operating Requirements**

105.45-1 Loading or dispensing petroleum products.

105.45-5 Galley fires.

105.45-10 Smoking.

105.45-15 Warning signals and signs.

105.45-20 Warning sign at gangway.

### **Subpart 105.50—Manning Requirements**

105.50-1 General.

105.50-5 Tankerman.

### **Subpart 105.60—Tankerman for Commercial Fishing Vessels Only**

105.60-1 Merchant Mariner's Document.

105.60-5 Experience as tankerman required.

105.60-10 Oral or written examination required.

### **Subpart 105.90—Existing Commercial Fishing Vessels Dispensing Petroleum Products**

105.90-1 Existing commercial fishing vessels dispensing petroleum products.

AUTHORITY: 33 U.S.C. 1321(j); 46 U.S.C. 3306, 3703, 4502; 49 U.S.C. App. 1804; E.O. 11735, 38 FR 21243, 3 CFR, 1971-1975 Comp., p. 793; 49 CFR 1.46.

SOURCE: CGFR 69-53, 34 FR 11265, July 4, 1969, unless otherwise noted.