

**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 94.43—Ring Life Buoys and Water Lights

29. Section 94.43-1(a) is amended to read as follows:

##### § 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.

30. Section 94.43-5 is amended by adding a new paragraph (c) reading as follows:

##### § 94.43-5 General.

(c) All self-activating smoke signals shall be of an approved type, constructed in accordance with the requirements of Subpart 160.057 of Subchapter Q (Specifications) of this chapter which shall be capable of producing smoke of a highly visible color for at least 15 minutes.

31. Section 94.43-10 is amended by revising paragraph (b) and by adding new paragraphs (c) and (d) reading as follows:

##### § 94.43-10 Number required.

(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.

(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.

32. Section 94.43-90 is amended to read as follows:

##### § 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.

#### Subpart 94.50—Embarkation Aids

33. Section 94.50-1(a) is amended to read as follows:

##### § 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.

34. Section 94.50-5(b) (2) is amended to read as follows:

##### § 94.50-5 Ladders.

(b) *Vessels certificated for ocean, coastwise, or Great Lakes service.* . . .

(2) All ocean and coastwise vessels which normally employ a pilot shall have a ladder for the use of the pilot in addition to the ladders required by subparagraph (1) of this paragraph. Suitable spreaders, a man rope, and a safety line shall be kept readily available for use in conjunction with the pilot ladder whenever circumstances may so require. When used, the ladder shall be secured in a position so that each step rests firmly against the ship's side, and so the pilot can gain safe and convenient access to the ship after climbing not more than 30 feet. Whenever the distance from sea level is more than 30 feet, access from the pilot ladder to the ship shall be by means of an accommodation ladder or other equally safe and convenient means. Arrangements shall be such that the rigging of the ladder and the embarkation and debarkation of the pilot is supervised by a responsible officer of the ship, and handholds are provided to assist the pilot to pass safely and conveniently from the head of the ladder into the ship and onto the ship's deck. At night a light shining over the side shall be available for use, and the deck at the position where the pilot boards the ship shall be adequately lighted.

35. Subpart 94.50 is amended by inserting after § 94.50-10 a new § 94.50-15 reading as follows:

##### § 94.50-15 Illumination for liferaft stowage areas.

(a) For all vessels on an international voyage, suitable illumination shall be provided for the liferaft stowage areas.

36. Section 94.50-90 is amended to read as follows:

##### § 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

37. Section 94.55-1 is amended to read as follows:

##### § 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 radio-room, chartroom, or other suitable location ready to be moved to one or other of the lifeboats in the event of an emergency.

### PART 95—FIRE PROTECTION EQUIPMENT

1. The authority for Part 95 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 95 issued under R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4486, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 165, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391, 392, 404, 461, 395, 398, 397, 536p, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6321; 197-14, Nov. 26, 1954, 19 F.R. 8026; CGFR 56-25, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

#### Subpart 95.05—Fire Detecting and Extinguishing Equipment, Where Required

2. Section 95.05-1 is amended to read as follows:

##### § 95.05-1 Fire detecting, manual alarm, and supervised patrol systems.

(a) Fire detecting, manual alarm, and supervised patrol systems are normally not required. However, if installed, whether required or not, such 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.

3. Section 95.05-20 is amended by adding a new paragraph (b) reading as follows:

##### § 95.05-20 Sand.

(b) In lieu of the requirements in paragraph (a) of this section, one B-II fire extinguisher may be substituted.



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	3/8	2,500	2 1/2
225	1/2	4,450	3
300	5/8	7,100	3 1/2
600	1	10,450	4
1,000	1 1/2	15,000	4 1/2
2,400	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 0.0023 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.

#### Subpart 95.20—Water Spray Extinguishing System, Details [Canceled]

10. Subpart 95.20, consisting of §§ 95.20-1 to 95.20-90, inclusive, is canceled.

#### Subpart 95.50—Hand Portable Fire Extinguishers and Semiportable Fire Extinguishing Systems; Arrangements and Details

11. Section 95.50-10 is amended by canceling paragraph (e) and by redesignating paragraph (f) as paragraph (e) so that it reads as follows:

##### § 95.50-10 Location.

(e) Hand portable or semiportable extinguishers, which are required on their name plates to be protected from freezing, shall not be located where freezing temperatures may be expected.

### PART 96—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

1. The authority for Part 96 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 96 issued under R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, sec. 10, 85 Stat. 428, as amended, 41 Stat. 306, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 68 Stat. 876; 46 U.S.C. 391, 392, 404, 435, 395, 363, 367, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950; 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8028; CGFR 56-28, July 24, 1956, 21 F.R. 5659. Additional authority cited with sections affected.

### Subpart 96.30—Protection From Refrigerants

2. The heading for Subpart 96.30 is amended to read "Protection from Refrigerants," as set forth above.

3. Section 96.30-5 is amended to read as follows:

#### § 96.30-5 General.

(a) All self-contained breathing apparatus and gas masks shall be of an approved type, constructed in accordance with Subpart 160.011 of Subchapter Q (Specifications) of this chapter.

(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.

#### § 96.30-10 [Canceled]

4. Section 96.30-10 *Stowage* is canceled.

5. Section 96.30-15 is amended to read as follows:

#### § 96.30-15 Refrigeration masks.

(a) On all vessels equipped with refrigeration, other than small unit type refrigerations of not more than 20 cubic feet capacity, a gas mask, suitable for protection against each refrigerant used, or a self-contained breathing apparatus shall be provided. The refrigeration gas masks shall be stowed convenient to, but outside of the spaces containing the refrigeration equipment.

(b) A complete recharge shall be carried for each gas mask and self-contained breathing apparatus. The spare charge shall be stowed in the same location as the equipment it is to reactivate.

#### § 96.30-20 [Canceled]

6. Section 96.30-20 *Spare charges* is canceled. (Text transferred to § 96.30-15(b).)

7. Section 96.30-90(a)(1) is amended to read as follows:

#### § 96.30-90 Vessels contracted for prior to November 19, 1952.

(1) . . . . .  
(a) The requirements of §§ 96.30-5 through 96.30-15 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 set forth in § 96.30-5, may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection, but all new installations or replacements shall meet the applicable specifications or requirements in this subpart.

8. Part 96 is amended by adding after § 96.30-90 a new Subpart 96.35, consisting of §§ 96.35-1 to 96.35-90, reading as follows:

### Subpart 96.35—Fireman's Outfit

Sec.	Application.
96.35-1	General.
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 prior to May 26, 1965.

### § 96.35-1 Application.

(a) The provisions of this subpart, with the exception of § 96.35-90, shall apply to all vessels on an international voyage contracted for on or after May 26, 1965. Such vessels contracted for prior to May 26, 1965, shall meet the requirements of § 96.35-90.

#### § 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) All self-contained breathing apparatus shall be of an approved type, constructed in accordance with Subpart 160.011 of Subchapter Q (Specifications) of this chapter.

(c) All flashlights shall be of an approved 3-cell explosion-proof type, constructed in accordance with Subpart 161.008 of Subchapter Q (Specifications) of this chapter.

(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 3/8-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.

#### § 96.35-10 Fireman's outfit.

(a) A fireman's outfit shall consist of one self-contained breathing apparatus with lifeline attached, one flashlight, one flame safety lamp, and one fire ax.

(b) Every vessel shall carry at least one fireman's outfit.

#### § 96.35-15 Stowage.

(a) Equipment shall be stowed in a convenient, accessible location as determined by the master, for use in case of emergency.

#### § 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 prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) The requirements of §§ 96.35-5 through 96.35-20 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 set forth in § 96.35-5, may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection, but all new installations or replacements shall meet the applicable specifications or requirements.

**PART 97—OPERATIONS**

1. The authority for Part 97 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 97 issued under R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4453, as amended, sec. 10, 35 Stat. 426, as amended, 41 Stat. 305, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391, 392, 404, 435, 395, 363, 367, 50 U.S.C. 198; E.O. 11289; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; CGFR 56-28, July 24, 1956, 21 F.R. 5659. Additional authority cited with sections affected.

**Subpart 97.13—Station Bills**

2. Section 97.13-15(b) (1) is amended to read as follows:

§ 97.13-15 Emergency signals.

(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.

**Subpart 97.15—Tests, Drills, and Inspections**

3. Section 97.15-35(b) (8) is amended to read as follows:

§ 97.15-35 Fire and boat drills.

(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.

**Subpart 97.37—Markings for Fire and Emergency Equipment, Etc.**

4. Section 97.37-37(a) is amended to read as follows:

§ 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.

5. Section 97.37-40(a) is amended to read as follows:

§ 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.

6. Section 97.37-43 is amended by adding a new paragraph (b) reading as follows:

§ 97.37-43 Life preservers and ring life buoys.

(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.

6a. Part 97 is amended by inserting after § 97.37-90 a new Subpart 97.39, consisting of § 97.39-1, reading as follows:

**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 97.43—Placard of Lifesaving Signals and Breeches Buoy Instructions**

7. The title for Subpart 97.43 is amended to read "Placard of Lifesaving Signals and Breeches Buoy Instructions," as set forth above.

8. Section 97.43-1(a) is amended to read as follows:

§ 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.

9. Section 97.43-5 is amended to read as follows:

§ 97.43-5 Availability.

(a) On all vessels to which this subpart applies there shall be posted in the pilothouse and 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, 1960. These signals shall be used by vessels or persons in distress when communicating with lifesaving stations and maritime rescue units.

(b) A copy of Form CG-811 shall also be conveniently posted in the engine-room and crews quarters of all vessels to which this subpart applies.

**PART 98—SPECIAL CONSTRUCTION, ARRANGEMENT, AND PROVISIONS FOR CERTAIN DANGEROUS CARGOES IN BULK**

1. The authority for Part 98 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 98 issued under R.S. 4405, as amended, 4462, as amended, 4472, as amended; 46 U.S.C. 375, 416, 170. Interpret or apply R.S. 4417a, as amended, 4488, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 481, 50 U.S.C. 198; E.O. 11289; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-38, Oct. 26, 1959, 24 F.R. 8857. Additional authority cited with regulations affected.

**Subpart 98.03—Barges Carrying Dangerous Cargoes**

§ 98.03-35 [Amended]

2. Section 98.03-35 *Special operating requirements for barges carrying certain dangerous cargoes in bulk* is amended by correcting a phrase in paragraph (f) (2) (ii), first sentence, from "or equipment of machinery breakdown" to "or equipment or machinery breakdown."

**Subpart 98.05—Elemental Phosphorus in Water in Bulk**

§ 98.05-50 [Amended]

3. Section 98.05-50 *General requirements* is amended by changing in paragraph (f) title from "Commandant (OPL)" to "Commandant (MMT)."

**Subpart 98.10—Sulfuric Acid in Bulk**

§ 98.10-45 [Amended]

4. Section 98.10-45 *General requirements* is amended by changing in paragraph (f) the title from "Commandant (OPL)" to "Commandant (MMT)."

**Subpart 98.15—Hydrochloric Acid in Bulk**

§ 98.15-45 [Amended]

5. Section 98.15-45 *General requirements* is amended by changing in paragraphs (f) and (g) the title from "Commandant (OPL)" to "Commandant (MMT)."

**Subpart 98.20—Liquid Chlorine in Bulk**

6. Section 98.20-15(a) is amended to read as follows:

§ 98.20-15 Markings.

(a) Upon satisfactory completion of tests and inspection, the following markings at least three-eighths inch high shall be stamped into a noncorrodible plate permanently attached to the tank by welding.

(Name and address of fabricator)	p.s.i.
(Design pressure)	p.s.i.
(Hydrostatic test pressure)	p.s.i.
(Maximum allowable pressure)	
(Inspector's number, initials and C.G. symbol)	
(Manufacturer's serial number)	
(Date of manufacture)	
(Water capacity)	U.S. gallons

## RULES AND REGULATIONS

## § 98.20-70 [Amended]

7. Section 98.20-70 *Special operating requirements* is amended by changing in paragraphs (e) and (f) the title from "Commandant (OPL)" to "Commandant (MMT)."

## Subpart 98.25—Anhydrous Ammonia in Bulk

8. Section 98.25-15(a) is amended to read as follows:

## § 98.25-15 Markings.

(a) Upon satisfactory completion of tests and inspection, the following marking, at least  $\frac{3}{8}$  inch high, shall be stamped into a noncorrodible nameplate permanently attached to the tank by means of welding.

----- (Name and address of fabricator)	
----- (Design pressure)	p.s.i.
----- (Hydrostatic test pressure)	p.s.i.
----- (Maximum allowable pressure)	p.s.i.
----- (CG inspector's number, initials, symbol)	
----- (Manufacturer's serial number)	
----- (Water capacity)	U.S. gallons
----- (Date of manufacture)	

## § 98.25-90 [Amended]

9. Section 98.25-90 *Special operating requirements* is amended by changing in paragraph (d) the title from "Commandant (OPL)" to "Commandant (MMT)".

## § 98.25-95 [Amended]

10. Section 98.25-95 *Tests and inspections* is amended by changing in paragraph (b), first sentence, the phrase from "allowable pressure" to "maximum allowable pressure."

SUBCHAPTER J—ELECTRICAL ENGINEERING  
PART 110—GENERAL PROVISIONS

1. The authority for Part 110 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 110 issued under R.S. 4406, as amended, 4482, as amended; 46 U.S.C. 375, 416. Interpret or apply R.S. 4399, as amended, 4400, as amended, 4417, as amended, 4417a, as amended, 4418, as amended, 4421, as amended, 4426, as amended, 4427, as amended, 4433, as amended, 4453, as amended, 4488, as amended, 4491, as amended, sec. 14, 29 Stat. 690, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, sec. 5, 49 Stat. 1384, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 361, 362, 391, 391a, 392, 399, 404, 405, 411, 435, 481, 489, 366, 396, 398, 399, 367, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4904; CGFR 58-28, July 24, 1956, 21 F.R. 5659; 167-98, Oct. 26, 1959, 24 F.R. 8857.

## Subpart 110.05—Application

## § 110.05-1 [Amended]

2. Section 110.05-1 *Vessels subject to the requirements of this subchapter* is amended by revising in paragraph (a) (1) and in footnote 6 in Table 110.05-1(a) in paragraph (a) the title from "International Convention for Safety of Life at Sea, 1948," to "International Convention for Safety of Life at Sea, 1960."

## Subpart 110.10—Reference Specifications, Standards, and Codes

3. Section 110.10-1 is amended by adding a new subparagraph (3) to paragraph (c) and by amending paragraph (f), which reads as follows:

## § 110.10-1 General

(c) \* \* \*

(3) NEMA Standards Publication Motors and Generators (MG1).

(f) Specifications and Guides issued by the U.S. Navy Bureau of Ships, Washington, D.C., 20360, of issue in effect on the date the vessel is contracted for, as listed in this paragraph.

(1) MIL-C-915 Interim Specifications Cable, Cord and Wire, Electrical (shipboard use).

(2) MIL-C-2194 Military Specifications Cable, Power, Electrical, Reduced Diameter Type, Naval Shipboard.

(3) MIL-C-23206 Military Specifications Cable, Special Purpose, Electrical (Nuclear Plant).

(4) NavShips 250-660-23, Cable Comparison Guide.

4. Section 110.10-5(a) is amended to read as follows:

## § 110.10-5 Copies of specifications, standards and codes.

(a) Copies of the specifications, standards, and codes referred to in this subpart may be obtained from the issuing authority except:

(1) Military specifications may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa., 19120.

(2) NavShips 250-660-23 may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

## Subpart 110.15—Definition of Terms Used in This Subchapter

4a. Section 110.15-105 is amended to read as follows:

## § 110.15-105 International voyage.

(a) The term "international voyage," as used in this subchapter, shall have the same meaning as that contained in Regulation 2(d), Chapter I, of the International Convention for Safety of Life at Sea, 1960; i.e., "International voyage" means a voyage from a country to which the present Convention applies to a port outside such country, or conversely; and for this purpose every territory for the international relations of which a Contracting Government is responsible or

for which the United Nations are the administering authority is regarded as a separate country."

(b) The International Convention for Safety of Life at Sea, 1960, does not apply to vessels "solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63d Meridian." Accordingly, such vessels shall not be considered as being on an "international voyage" for the purpose of this subchapter.

(c) For the purpose of this subchapter the term "territory" as used in paragraph (a) of this section shall be considered to include the Commonwealth of Puerto Rico, the Canal Zone, all possessions of the United States, and all lands held by the United States under a protectorate or mandate.

(d) Although voyages between the continental United States and Hawaii or Alaska, and voyages between Hawaii and Alaska are not "international voyages" under the provisions of the International Convention for Safety of Life at Sea, 1960, such voyages are similar in nature and shall be considered as "international voyages" and subject to the same requirements for the purpose of this subchapter.

5. Subpart 110.15 is amended by inserting after § 110.15-125 a new § 110.15-128 reading as follows:

## § 110.15-128 Nuclear vessel.

(a) A nuclear vessel is a vessel provided with a nuclear powerplant for propulsion or any other purpose, or any vessel handling or processing substantial amounts of radioactive material other than as cargo.

## Subpart 110.20—Equivalentents

6. Section 110.20-1(a) is amended to read as follows:

## § 110.20-1 Conditions under which equivalentents 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.

PART 111—ELECTRICAL SYSTEM;  
GENERAL REQUIREMENTS

1. The authority for Part 111 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 111 issued under R.S. 4406, as amended, 4482, as amended; 46 U.S.C. 375, 416. Interpret

or apply R.S. 4399, as amended, 4400, as amended, 4417, as amended, 4417a, as amended, 4418, as amended, 4421, as amended, 4426, as amended, 4427, as amended, 4433, as amended, 4453, as amended, 4483, as amended, 4491, as amended, sec. 14, 29 Stat. 890, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, sec. 5, 49 Stat. 1384, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 361, 362, 391, 391a, 392, 399, 404, 406, 411, 435, 481, 469, 366, 395, 393, 399, 367, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 13, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 111.05—General Requirements**

2. Section 111.05-15 is amended by adding a new paragraph (h) reading as follows:

**§ 111.05-15 General considerations.**

(h) *Limitations of porcelain use.* Porcelain should not be used for lamp sockets, switches, receptacles, fuse blocks, etc., where the material is rigidly fastened by machine screws or the equivalent.

3. Section 111.05-30 is amended to read as follows:

**§ 111.05-30 Insulation materials.**

(a) *Class designation.* Insulation material referred to in this subchapter is designated by class as described in this section.

(b) *Class O insulation.* Materials or combinations of materials such as cotton, silk, and paper without impregnation.<sup>1</sup>

(c) *Class A insulation.* Materials or combinations of materials consisting of (1) cotton, silk, paper, and similar organic materials when either impregnated<sup>1</sup> or immersed in a liquid dielectric; (2) molded and laminated materials with cellulose filler, phenolic resins, and sheets of cellulose acetate and other cellulose derivatives of similar properties and (3) varnishes (enamels) as applied to conductors. (ASA-C50.)

(d) *Class B insulation.* Materials or combinations of materials such as mica, asbestos, fiberglass, and similar inorganic materials in built-up form with organic binding substances. A small proportion of Class A material may be used for structural purposes only. Fiberglass or asbestos magnetic wire insulation are included in this temperature class. These may include supplementary organic materials, such as polyvinylacetal or polyamide films. (ASA-C50.)

(e) *Class C insulation.* Materials consisting entirely of mica, porcelain, glass, quartz, and similar inorganic materials. (ASA-C50.)

<sup>1</sup> Insulation is considered to be "impregnated" when a suitable substance provides a bond between components of the structure and also a degree of filling and surface coverage sufficient to give adequate performance under the extremes of temperature, surface contamination (moisture, dirt, etc.), and mechanical stress expected in service. The impregnant must not flow or deteriorate enough at operating temperature so as to seriously affect performance in service.

(f) *Class F insulation.* A Class F insulation system is one which by experience or accepted test can be shown to have suitable thermal endurance when operating at the limiting Class F temperature specified in the temperature rise standard for the machine under consideration. Typical materials used in a Class F system include mica, glass fiber, asbestos and other materials, not necessarily inorganic, with compatible bonding substances having suitable thermal stability. (NEMA Publication No. MG1.)

(g) *Class H insulation.* Materials or combinations of materials consisting of (1) mica, asbestos, fiberglass, and similar inorganic materials in built-up

form with binding substance composed of silicone compounds, or materials with equivalent properties; (2) silicone compounds in rubbery or resinous forms, or materials with equivalent properties. A minute proportion of Class A material may be used only where essential for structural purposes during manufacture. (ASA-C50.)

**Subpart 111.10—Generators**

4. Section 111.10-30 is amended by revising Tables 111.10-30(a1) and 111.10-30(a2) to read as follows:

**§ 111.10-30 Temperature limitations.**

(a) \* \* \*

TABLE 111.10-30 (a1)—LIMITS OF TEMPERATURE RISES FOR DIRECT-CURRENT GENERATORS BASED ON 50° C. AMBIENT TEMPERATURE<sup>1</sup>

Part of generator	Limits of temperature rises—degrees centigrade (measured by thermometer) <sup>1, 2</sup>					
	Class A insulation		Class B insulation		Class H insulation	
	Continuous	At end of 2-hour overload	Continuous	At end of 2-hour overload	Continuous	At end of 2-hour overload
All insulated windings other than items next following.....	40	55	60	75	80	105
Single-layer field windings with exposed uninsulated surfaces and bare copper windings.....	50	65	70	85	100	125
Cores and mechanical parts in contact with or adjacent to insulation.....	40	55	60	75	80	105
Commutator and collector rings.....	55	65	75	85	95	115
German silver or grid shunts on series field windings.....	175	-----	175	-----	(?)	-----
Bearings.....	35	-----	40	-----	(?)	-----

<sup>1</sup> Special consideration shall be given to other parts of the machine such as bearings, etc.

<sup>2</sup> Where other methods are used refer to ASA-C-50 for temperature rise limits.

<sup>3</sup> For Class F insulation refer to NEMA-MG1.

TABLE 111.10-30(a2)—LIMITS OF TEMPERATURE RISES FOR ALTERNATING-CURRENT GENERATORS BASED ON 50° C. AMBIENT TEMPERATURE<sup>1, 2</sup>

Item	Determined by--	Limits of temperature rises, degrees centigrade <sup>1</sup>					
		Salient pole generators			Turbine type generators		
		Class A insulation	Class B insulation	Class H insulation	Class A insulation	Class B insulation	Class H insulation
Armature windings of machines of 1,500 kva. and less.....	Thermometer.....	40	60	100	-----	-----	-----
Armature windings of machines of 750 kva. and less.....	do.....	-----	-----	-----	40	60	100
Armature windings with 2 coil sides per slot in stators of machines above 1,500 kva.....	Imbedded detector.....	50	70	110	-----	-----	-----
Armature windings with 2 coil sides per slot in stators of machines above 750 kva.....	do.....	-----	-----	-----	50	70	110
Insulated field windings.....	Resistance.....	50	70	110	-----	80	120
Collector rings.....	Thermometer.....	55	75	115	55	75	115
Cores and mechanical parts in contact with or adjacent to insulation.....	do.....	40	60	100	40	60	100
Bearings.....	do.....	35	40	(?)	35	40	(?)

<sup>1</sup> For generators having 25 percent overload rating for 2 hours, the temperature at the end of the overload run when conducted immediately following the continuous run shall not exceed the figures in the table by more than 15° C. except for collector rings which shall be in accordance with the table.

<sup>2</sup> Special consideration shall be given to other parts of the machine such as bearings, etc.

<sup>3</sup> For Class F insulation, refer to NEMA-MG1.

**Subpart 111.15—Storage Batteries**

5. Section 111.15-1 is amended to read as follows:

**§ 111.15-1 General requirements.**

(a) *Power and light batteries.* Power and lighting batteries may be of the lead acid or alkaline type, or any other approved type, due consideration being given to suitability for any specific application. The cells shall be constructed so as to prevent spilling of electrolyte due to an inclination of 40° from the normal

(b) *Emergency and general alarm storage batteries.* When batteries are used for emergency lighting and power loads or for general alarm system loads, the requirements of Part 112 of this subchapter are also applicable.

(c) *Categories.* Batteries shall be classified into three types depending upon power output of the battery charger.

(1) *Large.* Large batteries shall be considered those connected to a battery charger whose output is more than 2 kw. (calculated from the maximum

tainable charging current and the normal voltage of the battery).

(2) *Moderate.* Moderate batteries shall be considered those connected to a battery charger whose output is between 0.2 kw. and 2 kw. (calculated from the maximum obtainable charging current and the normal voltage of the battery).

(3) *Small.* Small size batteries shall be considered those connected to a battery charger whose output is less than 0.2 kw. (calculated from the maximum obtainable charging current and the normal voltage of the battery).

(d) *Nameplates.* Each tray shall be provided with a durable nameplate securely attached, bearing the manufacturer's name or trade mark and type designation, the ampere-hour rating at a specific rate of discharge, and the specific gravity of the electrolyte (for a lead acid battery when fully charged). Data molded on the tray case will be acceptable in lieu of a nameplate.

6. Section 111.15-5 is amended to read as follows:

§ 111.15-5 Battery installation.

(a) *Large storage batteries.* Large batteries should be installed in a room assigned to batteries only, but may be installed in a box on deck if a room is not available. Lighting equipment installed in a battery room shall be explosion proof suitable for Class I, Group D, locations. Devices liable to arc, such as switches, battery chargers, etc. shall not be installed in battery rooms. The overload protective device required by § 111.15-25 should be placed in each conductor adjacent to but outside the room. Electric cables other than those serving the battery or battery room lighting should be routed around rather than through the battery room.

(1) A "danger notice" shall be permanently secured to the doors of the battery room or to the covers of battery deck boxes indicating that a naked light or smoking in these rooms or in this vicinity is prohibited.

(b) *Batteries of moderate size.* Batteries of moderate size as described in § 111.15-1(c)(2) should preferably be installed in a battery room or in a box on deck, but may also be installed in a box or locker in some suitable space such as an engine room, storeroom, etc., or may be installed open if protected from above from falling objects in the engine room or in a similar well-ventilated compartment. Batteries should not be installed in sleeping spaces. Engine cranking batteries should be located as closely as possible to the engine or engines served.

(c) *Batteries of small size.* Batteries of small size as described in § 111.15-1(c)(3) may be installed in such places as open working spaces and boat engine compartments provided that the space is ventilated.

7. Subpart 111.15 is amended by inserting after § 111.15-5 a new § 111.15-6 reading as follows:

§ 111.15-6 Arrangement.

(a) *Battery trays.* Battery trays should be chocked with wood strips or equivalent to prevent movement and each tray should be fitted with nonabsorbent insulating supports on the bot-

tom sides or with equivalent provisions to secure air circulation space all around each tray. Battery trays should be so arranged that the trays are accessible and with not less than 10 inches head room.

(b) *Tiers.* When batteries are arranged in two or more tiers, all shelves should have not less than 2 inches space front and back for circulation of air.

8. Section 111.15-10 is amended to read as follows:

§ 111.15-10 Ventilation.

(a) *General.* All rooms, lockers, and boxes for storage batteries should be arranged or ventilated to avoid accumulation of flammable gas.

(b) *Battery rooms.* Natural ventilation may be employed if ducts can be run directly from the top of the room to the open air above with no part of the duct more than 45° from the vertical. These ducts should not contain appliances (e.g., flame arrestors) which may impede the free passage of air or gas mixtures. Rooms containing large battery banks as defined in § 111.15-1(c)(1) shall be ventilated by mechanical exhaust. When mechanical exhaust is required, the system shall be separate from ventilation systems for other spaces, and, if electric, the motor shall be located outside the battery room. Mechanical ventilation systems shall be interlocked with the battery charger so that the battery cannot be charged without ventilation. Adequate openings, whether connected to ducts or not, for air inlet shall be provided near the floor or the bottom of lockers or boxes. In every case the quantity of the air expelled should be at least equal to:

$$(q = 3.89in) \quad (1)$$

where:

$q$  = quantity of expelled air in cubic feet per hour.

$i$  = maximum charging current during gas formation, however at least one-fourth of the maximum obtainable charging current of the charging facility.

$n$  = number of cells.

(c) *Battery lockers.* Battery lockers should be ventilated, if practicable, similarly to battery rooms by a duct led

from the top of the locker to the open air or to an exhaust ventilation duct, but the duct may terminate not less than 3 feet above the top of the locker in machinery spaces and similar well-ventilated compartments. Louvers or equivalent should be provided near the bottom for entrance of air.

(d) *Deck boxes.* Deck boxes should be provided with a duct from the top of the box terminating at least 4 feet above in a gooseneck, mushroom head, or equivalent to prevent entrance of water. Holes for air inlet should be provided on at least two opposite sides of the box. The entire deck box, including openings for ventilation, should be weathertight to prevent entrance of spray or rain.

(e) *Boxes for small batteries.* Boxes for small batteries require no ventilation other than openings near the top to permit escape of gas.

9. Section 111.15-15 is amended to read as follows:

§ 111.15-15 Protection from corrosion.

(a) Shelves in battery rooms or lockers for acid batteries should have a watertight lining of sheet lead of  $\frac{1}{16}$ -inch thickness carried up not less than 3 inches on all sides. For alkaline batteries the shelves should be similarly lined with steel not less than  $\frac{1}{32}$ -inch thick. Alternatively, a battery room may be fitted with a watertight lead pan for acid batteries, steel for alkaline batteries, over the entire deck, carried up not less than 6 inches on all sides. Deck boxes should be lined in accordance with the above alternative method. Boxes for small batteries should be lined to a depth of 3 inches consistent with the methods described above.

(b) Alternate lining materials may be used in lieu of lead or steel if it can be established that the material is corrosion-resistant to the specified electrolyte used in the batteries.

Subpart 111.25—Motors

10. Section 111.25-10(a) is amended by revising Tables 111.25-10(a1) and 111.25-10(a2) to read as follows:

§ 111.25-10 Temperature limitations.

(a) . . . .

TABLE 111.25-10(a1)—LIMITS OF TEMPERATURE RISES FOR DIRECT-CURRENT MOTORS<sup>1</sup>

Part of motor and type of enclosure	Limits of temperature rises; degrees centigrade (thermometer method) <sup>1</sup>					
	Class A insulation		Class B insulation		Class H insulation	
	40° C. ambient temperature	50° C. ambient temperature	40° C. ambient temperature	50° C. ambient temperature	40° C. ambient temperature	50° C. ambient temperature
All insulated windings other than item next following:						
Open and semienclosed	50	40	70	60	110	100
Totally enclosed	55	45	75	65	115	105
Single-layer field windings with exposed uninsulated surfaces and bare copper windings:						
Open and semienclosed	60	50	80	70	120	120
Totally enclosed	65	55	85	75	125	125
Coils and mechanical parts in contact with or adjacent to insulation:						
Open and semienclosed	50	40	70	60	110	100
Totally enclosed	55	45	75	65		
Commutators and collector rings:						
All types	65	55	85	75	125	115
Bearings:						
Open and semienclosed	40	35	45	40	(7)	(7)
Totally enclosed	45	40	50	45	(7)	(7)

<sup>1</sup> Special consideration shall be given to other parts of the machine, such as bearings, etc.

TABLE III.25-10(a2)—LIMITS OF TEMPERATURE RISES FOR ALTERNATING-CURRENT MOTORS<sup>1</sup>

Part of motor and type of enclosure	Limits of temperature rises; degrees centigrade (thermometer method) <sup>2,4</sup>					
	Class A insulation		Class B insulation		Class H insulation	
	40° C. ambient temperature	50° C. ambient temperature	40° C. ambient temperature	50° C. ambient temperature	40° C. ambient temperature	50° C. ambient temperature
Coil windings, cores and mechanical parts in contact with, or adjacent to insulation: All except totally enclosed..... Totally enclosed.....	50 55	40 45	70 75	60 65	110 115	100 105
Collector rings, commutators (the class of insulation refers to insulation affected by the heat from the commutator or collector rings, which insulation is employed in the construction of the commutator or collector rings or is adjacent thereto): All types.....	65	55	85	75	125	115
Bearings: Open and semienclosed..... Totally enclosed.....	40 45	35 40	45 50	40 45	(7) (7)	(7) (7)

<sup>1</sup> Squirrel-cage windings and mechanical parts not in contact with or adjacent to insulation may reach such temperatures as will not be injurious in any respect.  
<sup>2</sup> Special consideration shall be given to other parts of the machine, such as bearings, etc.  
<sup>3</sup> Where other methods are used refer to ASA-C-50 for temperature rise limits.  
<sup>4</sup> For Class F insulation refer to NEMA-MG1.

**Subpart 111.55—Overcurrent Protection**

11. Section 111.55-1(g) is amended to read as follows:

**§ 111.55-1 Installation of overcurrent devices.**

(g) *Protection of ship's service generators*—(1) *General.* Each generator of 25 kw. and over, and each generator regardless of size if arranged for parallel operation shall be protected by an individual trip-free air circuit breaker having inverse time overcurrent trips. The pickup setting of the long time overcurrent trip of the circuit breaker shall not exceed 115 percent of the generator rating for continuous rated machines and shall not exceed 15 percent above the overload rating for special rated machines. Each generator of less than 25 kw. not arranged for parallel operation may be protected by individual fuses in lieu of an individual circuit breaker.

(2) *Alternating current generators.* Where three or more generators are arranged for parallel operation, the circuit breakers shall have, in addition to inverse time trips, instantaneous trips set at a value in excess of the maximum asymmetrical short circuit current available from the associated generator. In order to provide the optimum degree of protection for generators, the short time trips shall be set at the lowest values of current and time which will coordinate with the trip settings of feeder circuit breakers supplied by the generator to provide the continuity of service and high speed clearance specified in § 111.55-25.

(3) *Direct current generators.* In addition to the inverse time overcurrent trips, direct current generator circuit breakers shall be provided with an instantaneous trip set at the lowest value of current which will coordinate with the trip settings of feeder circuit breakers supplied by the generator to provide the continuity of service and high speed clearance specified in § 111.55-25.

(4) *Generator circuits for parallel operation.* Each direct-current generator arranged for parallel operation shall be provided with a reverse current device. Each alternating-current generator arranged for parallel operation shall be provided with a reverse power relay.

12. Section 111.55-15(d) is amended to read as follows:

**§ 111.55-15 Construction and use of overcurrent devices.**

(d) *Construction and marking of fuses.* Fuses shall be constructed in accordance with Underwriters' Laboratories, Inc., Standard for Fuses. Standard cartridge fuses shall be marked with the label of Underwriters' Laboratories, Inc. Special cartridge fuses shall be inspected under Underwriters' Laboratories, Inc., reexamination service.

**Subpart 111.60—Wiring Methods and Materials**

13. Section 111.60-1 is amended by adding new paragraphs (h) and (i) reading as follows:

**§ 111.60-1 Electric cable.**

(h) *Substitute cable.* Electric cable constructed in accordance with Military Specifications MIL-C-915 or MIL-C-2194 may be substituted for the equivalent AIEE type cable specified in this section. The maximum current for any conductor shall not exceed the current-carrying capacities specified in the publication "Cable Comparison Guide," NavShips 250-660-23.

(i) *Special purpose cable*—(1) *Instrumentation cable.* Electric cable constructed in accordance with Military Specifications MIL-C-915, MIL-C-2194 or MIL-C-23206 of the types TTHFWA, TTRSA, PI, 1SWA, 2SWA, 3SWA, may be used for instrumentation circuits to connect such items as indicator lights, sensors, selector switches, and pushbuttons where the voltage of the circuit does not exceed 100 volts. The

maximum current for any conductor shall not exceed the current-carrying capacities specified in the publication "Cable Comparison Guide," NavShips 250-660-23.

(2) *Thermocouple cable.* Electric cable constructed in accordance with Military Specification MIL-C-915 of the types PBJX, PBTM and PBTX may be used as conductors between thermocouple sensors and their registering equipment.

(3) *Other types of cable.* Other types of cable will be given special consideration by the Commandant where the cable does not penetrate a watertight bulkhead and is suitably protected from mechanical damage.

14. Section 111.60-30 is amended by revising paragraphs (a) and (h) to read as follows:

**§ 111.60-30 Receptacle outlets and attachment plugs.**

(a) Receptacle outlets and attachment plugs for the attachment of portable lamps, tools, and similar apparatus supplied as ship's equipment and operating at 100 volts or more, shall provide a grounding pole and a grounding conductor in the portable cord to ground the dead metal parts of the portable apparatus. For portable devices made entirely of non-conducting material or so constructed that dead metal parts will not become energized under any conditions, the grounding conductor in the portable cord and the grounding pole of the attachment plug need not be furnished. Portable apparatus shall be deemed to be any apparatus served by means of a flexible extension cord, whether the apparatus is permanently mounted or not.

(h) When it is necessary to transmit current in one direction between two receptacle outlets by means of a portable cable with a plug on each end (such as a battery charging lead between a receptacle outlet on a ship and a receptacle outlet in a lifeboat), the plug which may be energized when not inserted in the receptacle outlet, shall be of the female type. When receptacle outlets may be used as a source of power as well as to receive power (such as the receptacles on barges that may have to supply power to adjoining barges in some make-ups and receive power from the towboat or adjoining barge in other make-ups) the receptacles shall be of the male, reverse service type. Plugs of associated portable cable shall be of the female type and shall be provided at both ends of the portable lead. The female type plug specified in this paragraph shall comply with the requirements of paragraph (g) of this section.

15. Section 111.60-35 is amended to read as follows:

**§ 111.60-35 Lighting fixtures.**

(a) *General requirements.* (1) Construction details shall be in accordance with Underwriters' Laboratories, Inc., Standard for Marine Type Electric Lighting Fixtures Subject 595.

(2) Open arc lamps shall not be used for applications other than for search-

lights and for motion picture projectors.

(3) Fixture globes shall be protected by guards except in living quarters, wheelhouse, gyro room, radio room, galley, and similar spaces where not subject to mechanical damage.

(4) Fixtures shall be of such construction, or so installed, that the conductors in outlet boxes will not be subjected to temperatures greater than that for which the conductors are approved (75° C. for rubber insulated conductors, 85° C. for varnished-cambric insulated and mineral-insulated conductors, 95° C. for asbestos-varnished-cambric insulated conductors, and 105° C. for MIL-C-2194 type SGA cable). For the purpose of this section, an ambient temperature of 25° C. will be assumed for passenger and crew quarters, public spaces, cargo spaces, and open deck areas, an ambient temperature of 40° C. will be assumed for auxiliary machinery and work spaces, and an ambient temperature of 50° C. will be assumed for the engine and boiler rooms.

(5) Fixtures shall be so constructed, or installed, or equipped with shades and/or guards that combustible material will not be subjected to temperatures in excess of 90° C.

(6) Fixtures shall not be used as connection boxes for circuits other than the branch circuit supplying the fixture except that two or more circuits may supply the fixture when:

(i) One or more lamps of a multilamp fixture are supplied from an emergency lighting circuit; or

(ii) When the number of lamps of a fixture exceeds the capacity of a single circuit. When more than one circuit is employed in a fixture, the circuits shall be as widely separated as possible and the different circuits clearly identified at terminal points. Also see § 111.50-20 (c) (5).

(7) For wiring of explosion-proof equipment see § 111.60-40.

(b) **Lighting fixture installations.** (1) Fixtures installed in locations exposed to the weather and in other locations occasionally exposed to splashing water shall be of watertight construction. Fixtures installed in other wet or damp locations shall be of at least dripproof construction as installed.

(2) Any combustible bulkhead or ceiling finish exposed between the edge of a fixture canopy or pan and the outlet box shall be covered with noncombustible material.

(3) In a completed installation, each outlet box shall be provided with a cover unless it is covered by means of a fixture canopy, lampholder, or similar device.

(4) Fixtures, lampholders, and receptacle outlets shall be securely supported. Fixtures shall not be supported by the screw shell of a lampholder.

(5) Pendent fixtures shall be suspended rigid, and supplied through threaded rigid conduit stems.

(6) Table lamps, desk lamps, floor lamps, and similar equipment shall be secured in place to prevent displacement by the roll or pitch of the vessel.

(c) **Grounding of lighting equipment.**

(1) Lighting equipment (including fixtures) shall be grounded.

(2) Equipment shall be considered as grounded when mechanically connected in a permanent and effective manner to the metal structure of the ship, the armor of armored cable, or a grounding connector.

## PART 112—EMERGENCY LIGHTING AND POWER SYSTEM

1. The authority for Part 112 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 112 issued under R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416. Interpret or apply R.S. 4399, as amended, 4400, as amended, 4417, as amended, 4417a, as amended, 4418, as amended, 4421, as amended, 4426, as amended, 4427, as amended, 4433, as amended, 4453, as amended, 4488, as amended, 4491, as amended, sec. 14, 29 Stat. 690, as amended,

sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, sec. 5, 49 Stat. 1384, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 3, 54 Stat. 347, as amended, sec. 8, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 361, 362, 391, 391a, 392, 399, 404, 405, 411, 435, 481, 489, 366, 395, 363, 369, 367, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

### Subpart 112.05—General Requirements

2. Section 112.05-5 is amended by revising Table 112.05-5(a) to read as follows:

#### § 112.05-5 Emergency source of supply.

(a) \* \* \*

TABLE 112.05-5(a)

Size of vessel and service	Type or types of emergency source of power	Period of operation and minimum capacity of emergency source of power
<i>Passenger vessels over 65 feet in length</i>		
Ocean and Coastwise, 1,600 g.t. and over, and any passenger vessel, regardless of tonnage or service, where electric power-operated watertight doors are required.	Storage battery with automatic transfer gear for temporary source, and supplemented by diesel generator with automatic starting and transfer gear for final source.	1½ hour. 36 hours.
Ocean and Coastwise, over 15 g.t. but less than 1,600 g.t. <sup>1</sup>	Storage battery with automatic transfer gear or diesel generator with automatic starting and transfer gear.	36 hours or twice the time of run, whichever is the smaller.
Other than Ocean and Coastwise, 100 g.t. and over. <sup>1</sup>	Storage battery with automatic transfer gear or diesel generator with automatic starting and transfer gear.	8 hours or twice the time of run, whichever is the smaller.
Other than Ocean and Coastwise, over 15 g.t. but less than 100 g.t. <sup>1</sup>	Storage battery or diesel generator with automatic or manual operation. <sup>2</sup>	8 hours or twice the time of run, whichever is the smaller.
<i>Cargo and miscellaneous self-propelled vessels and tank ships; barges with sleeping accommodations for more than 6 persons.<sup>3</sup></i>		
All waters, 1,600 g.t. and over.	Storage battery or diesel generator automatic or manual operation.	12 hours.
All waters, 300 g.t. and over, but less than 1,600 g.t.	Storage battery or diesel generator, automatic or manual operation, or approved relay-controlled battery-operated lanterns. <sup>4</sup>	12 hours or twice the time of run, whichever is the smaller. <sup>4</sup>

<sup>1</sup> See also § 112.05-15.

<sup>2</sup> See also §§ 112.35-1 and 112.35-5.

<sup>3</sup> Applicable to barges contracted for on or after November 19, 1956.

<sup>4</sup> Minimum period of operation of relay-controlled, battery-operated lanterns may be less than 12 hours but not less than 6 hours.

<sup>5</sup> Battery-operated lanterns shall have rechargeable batteries, shall incorporate an automatic battery charger that will maintain the battery in a fully charged condition, and shall not be readily portable.

3. Section 112.05-10(a) is amended to read as follows:

#### § 112.05-10 Emergency lights.

(a) Emergency lights supplied by an automatic emergency lighting system shall form a part of the regular lighting system, and shall be continuously lighted at all times passengers or crew are aboard, except as provided by paragraph (b) of this section and § 112.05-15(c), and except when the emergency lights consist of relay-controlled battery-operated lanterns. (See footnote 5 in Table 112.05-5(a).)

amended, 4453, as amended, 4488, as amended, 4491, as amended, sec. 14, 29 Stat. 690, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, sec. 5, 49 Stat. 1384, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 361, 362, 391, 391a, 392, 399, 404, 405, 411, 435, 481, 489, 366, 395, 363, 369, 367, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

### Subpart 113.30—Sound Powered Telephone and Voice Tube Systems

2. Section 113.30-5 is amended by adding a new paragraph (g) reading as follows:

#### § 113.30-5 General requirements.

(g) An efficient means of communication shall be provided between the wheelhouse and the bow or forward lookout station. This communication need not be by means of sound powered telephone

## PART 113—COMMUNICATION AND ALARM SYSTEMS AND EQUIPMENT

1. The authority for Part 113 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 113 issued under R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416. Interpret or apply R.S. 4399, as amended, 4400, as amended, 4417, as amended, 4417a, as amended, 4418, as amended, 4421, as amended, 4426, as amended, 4427, as amended, 4433, as

or voice tube if other suitable means is provided or if the vessel configuration is such that direct voice communication between the wheelhouse and bow or forward lookout station is effective. When a sound powered telephone is installed, the requirements of § 113.30-20(b) are applicable.

3. Section 113.30-20 is amended by revising paragraph (b) and by adding new paragraphs (d) and (e) reading as follows:

**§ 113.30-20 Sound powered telephone system, general requirements.**

(b) The telephone stations listed in § 113.30-5 (a) through (d), (f), and (g) may be installed on the same circuit. However, when included on the same circuit with other required stations, the bow or forward lookout telephone must be provided with a wheelhouse cut-out switch if the telephone is located in the weather. Other stations which are desirable for the operation of the vessel, such as captain's and chief engineer's office and stateroom, emergency power room, CO, control room, fire pumproom, etc., will be considered for inclusion on this circuit.

(d) Except as provided in paragraph (b) of this section, telephone stations not specifically required by this subpart which are located in the weather shall not be included on a telephone circuit which includes any of the required telephone stations.

(e) Jack boxes or headsets shall not be utilized on a telephone installation that includes any of the stations required by this subpart.

4. Section 113.30-25 is amended by revising paragraphs (a) and (l) to read as follows:

**§ 113.30-25 Sound powered telephone system, detail requirements.**

(a) Sound powered telephone equipment used on a telephone circuit that includes any of the stations required by this subpart shall be of a type approved by the Commandant.

(l) Telephone cables shall be run as close to the fore and aft centerline of the vessel as is practicable and through runs of cable should avoid such spaces as machinery room and galleys.

**SUBCHAPTER M—BULK GRAIN CARGOES**

**PART 144—LOADING AND STOWAGE OF GRAIN CARGOES**

1. The authority for Part 144 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 144 issued under R.S. 4405, as amended, 4462, as amended, sec. 632, 63 Stat. 545; 46 U.S.C. 375, 416, 14 U.S.C. 632. Interpret or apply R.S. 4417, as amended, 4426, as amended, sec. 1, 49 Stat. 1544, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391, 404, 367, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**SUBCHAPTER N—DANGEROUS CARGOES**

**PART 146—TRANSPORTATION OR STORAGE OF EXPLOSIVES OR OTHER DANGEROUS ARTICLES OF SUBSTANCES, AND COMBUSTIBLE LIQUIDS ON BOARD VESSELS**

The authority for Part 146 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 146 issued under R.S. 4405, as amended, 4462, as amended, 4472, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 375, 416, 170; 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026. Additional authority cited with sections affected.

**PART 147—REGULATIONS GOVERNING USE OF DANGEROUS ARTICLES AS SHIPS' STORES AND SUPPLIES ON BOARD VESSELS**

The authority for Part 147 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 147 issued under R.S. 4405, as amended, 4462, as amended, 4472, as amended; 46 U.S.C. 375, 416, 170; sec. 3, 68 Stat. 675, as amended; 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026.

**SUBCHAPTER P—MANNING OF VESSELS**

**PART 157—MANNING REQUIREMENTS**

The authority for Part 157 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 157 issued under R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416. Treasury Department Order 120, July 31, 1950, 15 F.R. 6521. Additional authority is cited in parentheses following the sections affected.

**SUBCHAPTER Q—SPECIFICATIONS**

**PART 160—LIFESAVING EQUIPMENT**

1. The authority for Part 160 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 160 issued under R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416. Treasury Department Order 120, July 31, 1950, 15 F.R. 6521. Additional authority cited with sections affected.

**Subpart 160.001—Life Preservers, General**

2. The authority note for Subpart 160.001 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.001 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, 4492, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544; 1545, as amended, sec. 6, 17, 3, 54 Stat. 164, as amended, 166, as amended, 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 490, 395, 367, 526e, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.002—Life Preservers, Kapok, Adult and Child (Jacket Type), Models 3 and 5**

3. The authority note for Subpart 160.002 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.002 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, 4492, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, secs. 6, 17, 3, 54 Stat. 164, as amended, 166, as amended, 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 490, 395, 367, 526e, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.003—Life Preservers, Cork (Jacket Type), Models 32 and 36 [Canceled]**

4. Subpart 160.003, consisting of §§ 160.003-1 to 160.003-7, inclusive, is canceled effective July 1, 1965.

(R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416)

**Subpart 160.004—Life Preservers, Balsa Wood (Jacket Type), Models 42 and 46 [Canceled]**

5. Subpart 160.004, consisting of §§ 160.004-1 to 160.004-7, inclusive, is canceled effective July 1, 1965.

(R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416)

**Subpart 160.005—Life Preservers, Fibrous Glass, Adult and Child (Jacket Type), Models 52 and 56**

6. The authority note for Subpart 160.005 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.005 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4461, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 6, 17, 3, 54 Stat. 164, as amended, 166, as amended, 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 490, 395, 367, 526e, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.006—Life Preservers; Repairing and Cleaning**

7. The authority note for Subpart 160.006 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.006 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4481, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 6, 17, 3, 54 Stat. 164, as amended, 166, as amended, 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 395, 367, 526e, 526p, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

### Subpart 160.009—Buoys, Life, Ring, Cork or Balsa Wood, for Merchant Vessels and Motorboats

8. The authority note for Subpart 160.009 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.009 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, secs. 6, 17, 3, 54 Stat. 164, as amended, 166, as amended, 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 526e, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

9. Section 160.009-1 is amended to read as follows:

#### § 160.009-1 Applicable specifications and plan.

(a) *Specifications and standards.* The following specifications and standards, of the issue in effect on the date ring life buoys are manufactured, form a part of this subpart:

(1) Military specification:

MIL-T-7807—Thread, Nylon.

(2) Federal specifications:

MMM-A-188—Adhesive; urea, resin-type (liquid and powder).  
V-T-276—Thread, cotton.  
V-T-291—Thread, linen.  
CCC-C-443—Cloth, cotton, duck; (single and piled filling) yarns, flat.  
CCC-T-191—Textile test methods.  
T-R-601—Rope, manilla.

(3) Federal standards:

No. 895—Colors.  
No. 751—Stitches, seams, and stitchings.

(4) Coast Guard specifications:

164.001—Cork, sheet.  
164.002—Balsa wood.

(b) *Plan.* The following plan, of the issue in effect on the date ring life buoys are manufactured, forms a part of this specification:

Dwg. No. 160.009—Cork and balsa wood ring life buoy; arrangement and construction details.

(c) *Copies on file.* Copies of the specifications, standards and plans referred to in this section shall be kept on file by the manufacturer, together with the certificate of approval. The Coast Guard plan and specifications may be obtained upon request from the Commandant, U.S. Coast Guard, Washington, D.C., 20226. The Federal Specifications and Standard may be purchased from the Business Service Center, General Services Administration, Washington, D.C., 20407. The Military Specification may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa., 19120.

10. Section 160.009-3 is amended by revising paragraphs (b), (c), (d), (e), and (f) to read as follows:

#### § 160.009-3 Materials.

(b) *Cover.* The cover shall be cotton duck of a weight not less than 9.68

ounces per square yard, complying with Federal Specification CCC-C-443 for Type I and Type II material, except that the marine inspector may accept other cotton fabrics having not less weight and strength or weather-resistant synthetic fabrics having not less strength. Ring life buoys shall be either international orange (Color No. 12197 of Federal Standard 595) or natural greige in color and the colorfastness shall be rated as "good" when tested in accordance with Federal Specification CCC-T-191, Methods 5610, 5630, 5650, and 5660.

(NOTE: On vessels on an international voyage, all ring life buoys shall be international orange in color.)

(c) *Grabline.* The grabline may be  $\frac{3}{8}$ -inch, three-strand (twelve yarns) manilla, complying with Federal Specification T-R-601, or  $\frac{3}{8}$ -inch polyethylene, polypropylene or other suitable buoyant type synthetic material having a minimum breaking strength of 1,350 pounds.

(d) *Beckets.* The beckets for securing the grabline shall be 2-inch polyethylene, polypropylene, nylon, saran, materials permitted for the cover, or other suitable webbing material having a minimum breaking strength of 585 pounds. In addition, polyethylene and polypropylene shall be a weather-resistant type which is stabilized as to heat, oxidation, and ultraviolet light degradation.

(e) *Thread.* The thread for securing the straps, cover and the grabline, shall be either nylon, Type II, Size 4, Class 2, of Specification MIL-T-7807; No. 16, three-cord linen thread, complying with Federal Specification V-T-291, Table I; or No. 10, 6-ply, glazed finish, heavy cotton thread, complying with Federal Specification V-T-276, Table IV, Type IIIB. Alternate threads will be given special consideration.

(f) *Glue.* The adhesive shall be of a waterproof resin type glue, complying with Federal Specification MMM-A-188.

11. Section 160.009-4 is amended by revising paragraphs (d), (e), and (f) to read as follows:

#### § 160.009-4 Construction, workmanship, and performance requirements.

(d) *Beckets.* Each ring buoy shall be fitted with four beckets located at equidistant points about the body of the buoy. The beckets shall be 2 inches wide and shall be attached to the cover by stitching and seams as set forth in paragraph (f) of this section. Beckets made of materials permitted for the cover shall be made of double thickness with raw edges turned under. Beckets shall be so arranged to cover the cross section seams where the cover is joined.

(e) *Grabline.* The finished length of the grabline shall be four times the outside diameter of the buoy. The ends of the grabline shall be securely and neatly spliced together, or shall be hand whipped with a needle and both ends securely and smoothly seized together. It shall be festooned in bights around the buoy and pass through the beckets. The beckets shall be sewn tightly and securely

to the grabline by a stitching as described in paragraph (f) of this section.

(f) *Stitching.* All machine stitching shall be a lock stitch conforming to stitch 301 of Federal Standard No. 751, and there shall be not less than 5 stitches to the inch. All hand stitching shall be made with double threads. The stitching around the inside perimeter of the buoy to close the cover shall be a hand rope stitch not less than 2 stitches to the inch. The beckets and grabline shall be attached as follows: The ends of the beckets shall be turned back at least 1 inch, one end to go around the grabline and the other to be laid against the first end. The beckets shall then be stitched to the grabline with not less than 5 hand stitches or machine stitched with not less than 3 stitches per inch. Both edges of the beckets shall be fastened to the inside perimeter of the buoy with a hand cross stitch. Alternate methods of rigging the beckets and grabline will be given special consideration.

#### § 160.009-7 [Amended]

12. Section 160.009-7 *Procedure for approval* is amended to show the ZIP Code in the address in paragraph (a) by changing the address from "Washington 25, D.C." to "Washington, D.C., 20226."

### Subpart 160.010—Buoyant Apparatus for Merchant Vessels

13. The authority note for Subpart 160.010 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.010 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, secs. 6, 17, 3, 54 Stat. 164, as amended, 166, as amended, 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 526e, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

### Subpart 160.011—Gas Masks, Self-Contained Breathing Apparatus, and Supplied-Air Respirators, for Merchant Vessels

14. The authority note for Subpart 160.011 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.011 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

### Subpart 160.012—Lights, Water: Self-Igniting (Calcium Carbide-Calcium Phosphide Type), for Merchant Vessels

15. The authority note for Subpart 160.012 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.012 interpret or apply R.S. 4426, as amended, 4488, as amended, 4491, as

amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.013—Hatchets (Lifeboat and Liferaft) for Merchant Vessels**

16. The authority note for Subpart 160.013 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.013 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 395, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.015—Lifeboat Winches for Merchant Vessels**

17. The authority note for Subpart 160.015 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.015 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 395, 367, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

18. Section 160.015-3(a) is amended to read as follows:

**§ 160.015-3 Construction of lifeboat winches.**

(a) Lifeboat winches shall be of such strength that the lifeboat may be lowered safely with its full complement of persons and equipment. Additionally, a lifeboat winch used in hoisting an emergency lifeboat of a passenger vessel shall be capable of meeting the test specified in § 160.015-5(b)(9). A minimum factor of safety of six on the ultimate strength of the material shall be maintained at all times based on the approved working load.

19. Section 160.015-5(b) is amended by redesignating subparagraph (9) as (10) and by adding a new subparagraph (9), so that subparagraphs (9) and (10) read as follows:

**§ 160.015-5 Inspection and testing of lifeboat winches.**

(b) *Factory test for initial approval.*

(9) The following test applies to a lifeboat winch used for hoisting an emergency lifeboat of a passenger vessel. With a weight equal to the weight of the emergency lifeboat and its full complement of persons and equipment, it shall be demonstrated that the weight can be hoisted through the regular reev-

ing of the falls at a rate of not less than 20 feet per minute, to the embarkation position.

(10) After the tests noted in subparagraphs (2) to (9) of this paragraph have been conducted, the winch shall be completely disassembled and the marine inspector shall ascertain that no undue stress or wear has been incurred.

**Subpart 160.016—Lamps, Safety, Flame, for Merchant Vessels**

20. The authority note for Subpart 160.016 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.016 interpret or apply R.S. 4417a, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.017—Ladders, Embarkation-Debarcation (Flexible), for Merchant Vessels**

21. The authority note for Subpart 160.017 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.017 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**§ 160.017-5 [Amended]**

22. Section 160.017-5 *Construction of Type I ladders* is amended by changing a phrase in the last sentence of paragraph (a) from "from 15 to 18 inches" to "not less than 19 inches".

**§ 160.017-6 [Amended]**

23. Section 160.017-8 *Construction of Type II ladders* is amended by changing a phrase in the last sentence of paragraph (a) from "from 15 to 18 inches" to "not less than 19 inches".

**Subpart 160.018—Liferafts for Merchant Vessels**

24. The authority note for Subpart 160.018 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.018 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4481, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.021—Signals, Distress, Hand Red Flare, for Merchant Vessels**

25. The authority note for Subpart 160.021 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.021 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.022—Signals, Distress, Floating Orange Smoke, for Merchant Vessels**

26. The authority note for Subpart 160.022 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.022 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.023—Signals, Distress, Combination Flare and Smoke, Hand, for Merchant Vessels**

27. The authority note for Subpart 160.023 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.023 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.024—Signals, Distress, Pistol-Projected Parachute Red Flare, for Merchant Vessels**

28. The authority note for Subpart 160.024 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.024 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.026—Water, Emergency Drinking (In Hermetically Sealed Containers), for Merchant Vessels**

29. The authority note for Subpart 160.026 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.026 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481,

489, 395, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-23, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

30. Section 160.026-1 is amended to read as follows:

**§ 160.026-1 Applicable specifications and standard.**

(a) *General.* The following specifications and standard, of the issue in effect on the date emergency drinking water is packed, form a part of this subpart:

(1) *Military specifications:*

MIL-L-7178—Lacquer; cellulose nitrate, gloss for aircraft use.

MIL-E-15090—Enamel, equipment, light-gray (Formula No. 111).

MIL-W-15117—Water, drinking, canned, emergency.

(2) *U.S. Public Health Service:*

Drinking Water Standards (Publication No. 956).

(b) *Copies on file.* Copies of the specifications referred to in this section shall be kept on file by the packer, together with the approved plans and certificate of approval issued by the Coast Guard. The military specifications may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa., 19120. The "Drinking Water Standards" may be obtained from the U.S. Department of Health, Education, and Welfare, Public Health Service, Washington, D.C., 20201.

31. Section 160.026-4 is amended to read as follows (Table 160.026-4(a) is deleted):

**§ 160.026-4 Water.**

(a) Only water meeting the U.S. Public Health Service "Drinking Water Standards" which has been suitably inhibited to protect the container against corrosion shall be used. After treatment and packing the water shall be free from organic matter, sediment and odor. It shall have a pH between 7.0 and 9.0 as determined by means of a standard pH meter using glass electrodes.

32. Section 160.026-6 is amended by revising paragraph (a) and Table 160.026-6(d2) in paragraph (d) to read as follows:

**§ 160.026-6 Sampling, inspection, and tests of production lots.**

(a) *General.* When packing of approved emergency drinking water for lifeboats and liferafts is to commence, the packer shall notify the Commander of the Coast Guard District in which the plant is located in sufficient time for him to assign a marine inspector to the plant to observe production methods, select samples from production, and conduct the inspections and tests required by this subpart.

(d) *Laboratory tests of containers and water.* . . .

TABLE 160.026-4(d2)—DESCRIPTION OF LABORATORY TESTS

Number of containers per set of samples to be tested	Type of test	Reference specification for test procedure to be followed
2	Internal corrosion and vacuum.	MIL-W-15117.
9	Bacteriological limits and salt content.	MIL-W-15117 and U.S. Public Health "Drinking Water Standards."

33. Section 160.026-7(a) is amended to read as follows:

**§ 160.026-7 Procedure for approval.**

(a) *General.* Emergency drinking water for lifeboats and liferafts on merchant vessels is approved only by the Commander, U.S. Coast Guard, Washington, D.C., 20226. Correspondence pertaining to the subject matter of this Specification shall be addressed to the Commander of the Coast Guard District in which the plant is located.

**Subpart 160.027—Lifeboats for Merchant Vessels**

34. The authority note for Subpart 160.027 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.027 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 875; 46 U.S.C. 891a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.028—Signal Pistols for Parachute Red Flare Distress Signals for Merchant Vessels**

35. The authority note for Subpart 160.028 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.028 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 875; 46 U.S.C. 891a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.031—Line-Throwing Appliance, Shoulder Gun Type (and Equipment), for Merchant Vessels**

36. The authority note for Subpart 160.031 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.031 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 875; 46 U.S.C. 891a, 404, 481, 489, 395, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-23, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.032—Davits for Merchant Vessels**

37. The authority note for Subpart 160.032 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.032 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 875; 46 U.S.C. 891a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

38. Section 160.032-1 is amended to read as follows:

**§ 160.032-1 Applicable specifications.**

(a) *Specifications.* The following specifications of the issue in effect on the date the davits are manufactured form a part of this subpart:

(1) *A.S.T.M. standards:*

A7, Specification for Steel for Bridges and Buildings.

A27, Specification for Mild to Medium Strength Carbon Steel Castings for General Application.

A218, Specification for Carbon-Steel Castings Suitable for Fusion Welding for High Temperature Service.

(b) *Copies on file.* Copies of the specification standards referred to in this section shall be kept on file by the manufacturer, together with the approved plans and certificate of approval. The A.S.T.M. Standards may be purchased from the American Society for Testing Materials, 1916 Race Street, Philadelphia, Pa., 19103.

39. Section 160.032-3 is amended by revising paragraphs (a) and (b) to read as follows:

**§ 160.032-3 Construction of davits.**

(a) *Strength required.* Davits shall be of such strength that the lifeboat may be lowered safely with its full complement of persons and equipment; it being assumed that the vessel is heeled 15 degrees in either direction and with a 10-degree trim. A minimum factor of safety of 6 on the ultimate strength of the materials shall be maintained at all times based on the approved working load.

(b) *Turning out.* (1) Mechanical davits shall be designed so that they may be operated from the full inboard to the full outboard position when the lifeboat is fully equipped, but not loaded with persons, it being assumed that the vessel is heeled 15 degrees in either direction and with a 10-degree trim.

(2) Gravity davits shall be designed so that they may be operated automatically from the full inboard to the full outboard position when the lifeboat is fully equipped, but not loaded with persons, it being assumed that the vessel is heeled 15 degrees in either direction and with a 10-degree trim. This operation shall be accomplished by merely releasing the brake of the lifeboat winch.

40. Section 160.032-5(b) is amended by revising subparagraphs (2), (3), (7), and (8) to read as follows:

**§ 160.032-5 Inspection and testing of davits.**

**(b) Factory tests for initial approval.**

(2) A weight equal to 2.2 times the working load shall be suspended from the eye or end of the davit arm. With this load suspended from the davit it shall be operated from the full inboard to the full outboard position using the same operating crank or device used in actual practice aboard ship. The load shall then be swung in a fore and aft direction through an arc of approximately 10 degrees, each side of the vertical. The davit arm and frame shall show no permanent set or undue stress from this test. While this test is being conducted, the frame and arm, if of cast material, shall be subject to a test by being hammered to satisfy the inspector that the castings are sound and without flaws.

(3) A weight equal to 0.5 times the normal working load shall be suspended from the eye or end of the davit arm. This load shall be moved from the full inboard to the full outboard position using the actual handles supplied with the davit. The time required for this operation shall not exceed 90 seconds. The above test shall also be conducted with the davits set up to simulate a 15-degree inboard list with a 10-degree trim to determine that the davits may be satisfactorily operated in that condition. The above test shall also be conducted with the davits set up to simulate a 15-degree outboard list with a 10-degree trim. This test shall determine that the davit arms will not run out under the weight of the light boat.

(7) A weight equal to 2.2 times the working load shall be attached to the falls and suspended from the davit arm when in the full outboard position. The load shall be swung in a fore and aft direction through an arc of approximately 10 degrees each side of the vertical. The davit arm and trackways shall show no permanent set or undue stress from this test.

(8) The entire davit assembly shall then be heeled inboard 15 degrees and with a 10-degree trim. In this condition a weight equal to 0.5 times the working load shall be suspended from the falls and shall be operated from the full inboard to the full outboard position. This test shall demonstrate that the load is sufficient to turn out the davit by merely releasing the brake on the winch. Stops shall be made at intervals between the inboard and outboard positions to assure that the davit will start from any position.

**Subpart 160.033—Mechanical Disengaging Apparatus, Lifeboat, for Merchant Vessels**

41. The authority note for Subpart 160.033 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.033 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as

amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 461, 489, 367, 1333, 50 U.S.C. 198; E.O. 11289; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

42. Section 160.033-4(d) is amended to read as follows:

**§ 160.033-4 Inspection and testing of mechanical disengaging apparatus.**

**(d) Factory testing after approval.**

(1) In general, no factory tests after approval are required. However, each lifeboat in which mechanical disengaging apparatus is fitted shall be tested in accordance with § 160.035-13(a) of Subpart 160.035.

**Subpart 160.034—Hand Propelling Gear, Lifeboats, for Merchant Vessels**

43. The authority note for Subpart 160.034 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.034 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 461, 489, 367, 1333, 50 U.S.C. 198; E.O. 11289; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.035—Lifeboats for Merchant Vessels**

44. Subpart 160.035, consisting of §§ 160.035-1 to 160.035-11, inclusive, is amended to read as follows:

- Sec. 160.035-1 Applicable specifications.
- 160.035-2 General requirements for lifeboats.
- 160.035-3 Construction of steel oar-propelled lifeboats.
- 160.035-4 Construction of steel hand-propelled lifeboats.
- 160.035-5 Construction of steel motor-propelled lifeboats with and without radio cabin.
- 160.035-6 Construction of aluminum oar-, hand-, and motor-propelled lifeboats.
- 160.035-7 Construction of wood oar-, hand-, and motor-propelled lifeboats.
- 160.035-8 Construction of fibrous glass reinforced plastic (F.R.P.) oar-, hand-, and motor-propelled lifeboats.
- 160.035-9 Cubic capacity of lifeboats.
- 160.035-10 Number of persons allowed in lifeboats.
- 160.035-11 Inspection and testing of lifeboats.
- 160.035-12 Additional pre-approval tests required for F.R.P. lifeboats.
- 160.035-13 Testing and inspection after approval.
- 160.035-14 Procedure for approval of lifeboats.

**AUTHORITY NOTE:** The provisions of this Subpart 160.035 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 461,

469, 395, 367, 1333, 50 U.S.C. 198; E.O. 11289; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**§ 160.035-1 Applicable specifications.**

(a) **Specifications.** The following specifications, of the issue in effect on the date lifeboats are manufactured, form a part of this subpart.

(1) **A.S.T.M. Standards:**

A93—Standard Specification for Zinc Coated Iron or Steel Sheets.  
A7—Standard Specification for Steel for Bridges and Buildings.

(2) **Military specifications:**

MIL-P-18066—Plywood, Ship and Boat Construction.  
MIL-Y-1140—Yarn, Cord, Sleeving, Cloth and Tape—Glass.  
MIL-M-15617—Mats, Fibrous Glass, For Reinforcing Plastics.  
MIL-R-7575—Resin, Polyester, Low-Pressure Laminating.  
MIL-P-40619—Plastic Material, Cellular, Polystyrene.  
MIL-P-17549—Plastic Laminates, Fibrous Glass Reinforced, Marine Structural.  
MIL-P-19644—Plastic Foam, Molded Polystyrene (Expanded Bead Type).  
MIL-C-19663—Cloth, Glass, Woven Roving, For Plastic Laminate.  
MIL-R-21307—Resins, Polyester, Low Pressure Laminating, Fire Retardant.  
MIL-P-21929—Plastic Material, Cellular, Polyurethane, Rigid, Foam-In-Place, Low Density.

(3) **Federal specifications:**

TT-P-59—Paint, Ready-Mixed, International Orange.

(4) **Federal test method standard:**

406—Plastics: Method of Testing.

(5) **Federal Communications Commission:**

47 CFR Part 83, Rules Governing Stations on Shipboard in the Maritime Service.

(6) **Coast Guard specifications:**

160.038—Mechanical Disengaging Apparatus (For Lifeboats).  
160.064—Hand Propelling Gear (For Lifeboats).  
161.008—Searchlights, Motor Lifeboat.

(b) **Copies on file.** Copies of the specifications and rules referred to in this section shall be kept on file by the manufacturer, together with the approved plans and certificate of approval. The Coast Guard Specifications may be obtained upon request from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa., 19120. The Federal Communications Commission's Rules and Regulations may be obtained from the Federal Communications Commission, Washington, D.C., 20554. Federal Specifications and Standards may be obtained from the General Services Administration, Business Service Center, Washington, D.C., 20405.

### § 160.035-2 General requirements for lifeboats.

(a) The requirements of this subpart apply to all new construction. Lifeboats approved and in use prior to the regulations in this subpart may be continued in service if in satisfactory condition.

(b) All lifeboats must be properly constructed and shall be of such form and proportions that they shall be readily maneuverable, have ample stability in a seaway, and sufficient freeboard when fully loaded with their full complement of persons and equipment. All lifeboats shall be capable of maintaining positive stability when open to the sea and loaded with their full complement of persons and equipment. All lifeboats must be open boats with rigid sides having internal buoyancy only. Lifeboats with a rigid shelter may be approved, provided that it may be readily opened from both inside and outside, and does not impede rapid embarkation and disembarkation or the launching and handling of the lifeboat.

(c) Lifeboats may be constructed of steel, aluminum, fibrous glass reinforced plastic (FRP), or other materials receiving specific approval: *Provided*, That, the weight of the fully equipped and loaded lifeboat shall not exceed 44,800 pounds, and the carrying capacity calculated in accordance with § 160.035-9 of this specification shall not exceed 150 persons.

(1) The thwarts, side benches and footings of lifeboats shall be painted or otherwise colored international orange in accordance with Federal Specification TT-P-59. 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.

(d) For the purpose of calculations and conducting tests, the weight of the persons shall be taken at 165 pounds each.

(e) Motor lifeboats are classified as follows:

(1) 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.

(2) A Class 2 motor lifeboat shall meet the Class 1 requirements, and in addition, shall be fitted with a searchlight constructed in accordance with Subpart 161.006 of Subchapter Q (Specifications) of this chapter.

(3) A Class 3 motor lifeboat shall meet the Class 2 requirements, and in addition, shall be fitted with a radio cabin and a radio installation complying with requirements of the Federal Communications Commission.

### § 160.035-3 Construction of steel oar-propelled lifeboats.

(a) *Type*. Lifeboats shall have rigid sides and be fitted with internal buoyancy so arranged that the boats will float in the flooded condition when fully

loaded with persons and equipment. The capacity of an oar-propelled lifeboat is limited to a maximum of 59 persons. Lifeboats designed to carry 60 but not more than 100 persons shall be either hand-propelled or motor-propelled. Lifeboats designed to carry more than 100 persons shall be motor-propelled, except that a lifeboat designed to carry more than 100 persons may be hand-propelled if it is a replacement for a previously approved hand-propelled lifeboat.

(b) *Specifications*. The following specifications and schedule of lifeboat materials, including Table 160.035-3 shall be complied with unless other arrangements in matters of construction details, design, and strength, equivalent in safety and efficiency are approved by the Commandant.

(c) *Materials*. (1) Plating for shell, floors, air tanks, etc., shall be made by the open-hearth or electric furnace process in accordance with A.S.T.M. Standards A93 Class 1.25 Commercial. The bend tests required by these specifications shall be made after the galvanizing or other anticorrosive treatment has been applied.

(2) Rolled or extruded shapes such as keel, stem, sternpost, gunwales, etc., and rivets shall be made by the open-hearth or electric furnace process in accordance with A.S.T.M. Standard Specification A7. Consideration will be given to the use of other steels having equivalent strength where longitudinal cold forming is necessary.

(d) *Riveting*. (1) Where riveting is employed in the construction of the shell, double riveting shall be used. The centers of the rivets in the row nearest the edge of the sheet shall be not less than  $\frac{3}{8}$  inch nor more than  $\frac{1}{2}$  inch from the edge. Rivets shall be staggered with not less than 18 rivets to the foot and shall be countersunk head or button head rivets. The diameter of the rivets shall be not less than that shown in Table 160.035-3(d) (1).

TABLE 160.035-3(d) (1)

Plating thickness	Rivet diameter (inch)
18 USSG	$\frac{1}{4}$
16 USSG	$\frac{1}{8}$
14 USSG	$\frac{9}{32}$
13 USSG	$\frac{7}{32}$
12 USSG	$\frac{5}{16}$

(2) Riveting of the shell plating to the keel, stem, and sternpost shall be button head rivets, staggered with not less than 12 rivets to the foot. The distance from the edge of the plate to the centers of the rivets in the nearest row shall be not less than  $\frac{1}{2}$  inch nor more than  $\frac{3}{4}$  inch. Rivets connecting the shell to the gunwale shall be spaced not more than 3 inches on centers. The size of the rivets for connecting the shell plating to the keel, stem, sternpost, and gunwale shall be  $\frac{1}{4}$ -inch diameter for boats 28 feet and under, and  $\frac{5}{16}$ -inch diameter for boats over 28 feet.

(3) The connection of the floors to the shell shall be by a single row of rivets not less than  $\frac{3}{16}$  inch in diameter and spaced not more than 3 inches on centers.

(e) *Welding*. (1) Welding may be substituted for riveting in any location. It shall be performed by welders qualified

by the U.S. Coast Guard, American Bureau of Shipping, or U.S. Navy Department, and only approved electrodes shall be used. Details of the joints shall be indicated on the construction drawings submitted for approval.

(f) *Keel, stem and sternpost*. (1) Dimensions shall be not less than those shown in Table 160.035-3.

(2) The keel, stem, and sternpost shall be in not more than two lengths except in the case of a lifeboat of stern frame construction where three lengths may be used. The scarp shall have a length of nine times the thickness of the keel and shall be strapped and riveted. A double Vee butt weld may be used without straps.

(g) *Shell plating*. (1) The gage of the shell plating shall be not less than that shown in Table 160.035-3.

(2) Where increased thickness of bottom plating is called for by Table 160.035-3, the thicker plating shall be fitted to approximately the turn of the bilge.

(3) Doubling plates of suitable size shall be fitted on all lifeboats where the shell is liable to damage, wear, or corrosion from contact with chocks. Doublers shall be not less than the thickness of the bottom plating.

(4) All seam and butt laps shall be at least  $\frac{1}{4}$  inches.

(5) The laps of joints on keel, stem, and sternpost shall be at least 2 inches.

(6) All seam and butt laps, laps of plating on keel, stem, and sternpost, shall be made over felt laid in wet red lead. Other methods will be given separate consideration.

(h) *Floors*. (1) Floors shall be fitted in lifeboats 24 feet in length and over.

(2) Floors shall be of a thickness not less than that of the bottom plating and shall be at least 6 inches deep at the centerline of the lifeboat, and shall be flanged  $\frac{1}{2}$  inches top and bottom. The floors shall extend to approximately the turn of the bilge.

(3) The maximum floor spacing for boats 28 feet and under shall be 36 inches, and for boats over 28 feet but not exceeding 36 feet shall be 30 inches.

(4) Lumber holes shall be cut in the floors and so located as to provide efficient drainage. The lumber holes shall be so arranged that the load on the floors is taken by the keel as well as by the shell plating.

(i) *Gunwales*. (1) Dimensions of angular gunwales shall be not less than that shown in Table 160.035-3.

(2) The gunwales on each side of the lifeboat shall be in not more than two pieces. If the gunwales are fitted in two lengths, the joint shall be placed at approximately one-third of the length from the stem or stern of the boat and at opposite ends of the boat. The joint may be riveted or welded, and if riveted, the backing-up piece shall be angular in section of the thickness of the gunwale, and the length shall be not less than eight times the depth of the gunwale. A suitable butt weld may be used without backing-up bar.

(3) Flanged plates made from flat bars, dimensions of which shall be not less than that shown in Table 160.035-3, may be substituted for angle gunwales. The legs of the angles shall be approximately equal and the inside radius of the

bend shall be not less than 1/2 inch nor more than 3/4 inch. The vertical leg shall be outside of the sheer strake.

(4) Wood gunwales when installed in metal lifeboats shall be of clear grained oak or teak. They shall be of a size as listed in the table below. When in two lengths the scarp shall be located as outlined in subparagraph (2) of this paragraph. Scarphs shall be of a good long level type stiffened on the under side by a piece of the same size and material as the gunwale and at least 2 feet in length. The lap of the wooden gunwale to the sheer strake shall be made over felt laid in wet red lead and the gunwale shall be secured to the sheer strake with fastenings placed on 3-inch centers.

TABLE 160.035-3(f)(4)

Length of lifeboat	Depth of gunwale	Width of gunwale
12 feet and not over 18 feet.....	Inches 1 7/8	Inches 2 1/4
Over 18 and not over 20 feet.....	1 3/4	2 1/4
Over 20 and not over 22 feet.....	2	2 1/4
Over 22 and not over 24 feet.....	2 1/4	2 1/4
Over 24 and not over 26 feet.....	2 1/2	2 1/4
Over 26 and not over 28 feet.....	2 3/4	2 1/4

(j) *Nosings*. (1) The outside of the gunwale angle shall have a nosing fitted to the gunwale of hollow steel, half round, 2 inches by 1/4 inch. If a flanged plate gunwale is used, a nosing will not be required.

(2) The outside of a wooden gunwale shall have a nosing of clear grain oak or teak, secured to the sheer strake and the gunwale by fastenings spaced on 6-inch centers which fastenings may be substituted for alternate fastenings between the gunwale and sheer strake. On boats not over 20 feet long, the flat side of the nosing shall be not less than 1 1/2 inches wide and 3/8 inch thick, on boats not over 24 feet in length it shall be not less than 1 3/4 inches wide by 1 inch thick, on all boats over 24 feet in length it shall be not less than 2 1/4 inches wide by 1 inch thick.

(k) *Gunwale braces*. (1) The brace shall be bent outboard at the thwart so that the bolts and nuts do not obstruct the seating space. The gunwales shall be secured to the thwarts by steel braces, bolts, and rivets as follows:

TABLE 160.035-3(k)(1)

Length of lifeboat	Brace size	Bolts and rivets
22 feet and under.....	(inches) 3 x 1/4	3/16
Over 22 feet and not over 28 feet.....	3 x 3/4	3/8
Over 28 feet.....	3 x 3/8	7/16

(2) The gunwale braces shall be bolted to the thwarts with at least two carriage bolts of a size not less than that noted in Table 160.035-3(k)(1) and riveted or welded to the gunwales. Where riveted to the gunwale, at least two rivets of a

size not less than that noted in the table above shall be used.

(3) Bracket type gunwale braces will be given special consideration.

(l) *Breast plates*. (1) Breast plates shall be fitted to the stem and stern post. The thickness of the breast plates shall not be less than the thickness of the leg of the gunwale and the depth of the throat of the plate shall not be less than twice the depth of the gunwale. The breast plates of the boats that have mechanical disengaging apparatus shall be extended to connect and reinforce the hoisting plates of the disengaging apparatus.

(2) Breast hooks for wooden gunwales shall be of the strap type, not less than 1 1/2 inches wide, nor less than 1/4 inch thick. The length of each leg of the breast hook shall be not less than 5 times the width of the gunwale. The inside strap shall be continuous and the outside strap may be in two pieces provided they are through riveted to the stem or stern post. The inner and outer straps shall be through riveted or bolted to each other through the gunwale and sheer strake by not less than three rivets or bolts on each side.

(m) *Seats*. (1) The thwarts, side benches, and end benches shall be of fir, yellow pine, or approved equivalent.

(2) The dimensions of the thwarts shall be not less than that shown in Table 160.035-3. The mast thwart, if cut out in way of the mast, shall be suitably increased in width so that the width in way of the mast is not less than that required for other thwarts.

(3) The number of thwarts shall not be less than that set forth in Table 160.035-3.

(4) The distance from the top of the thwarts to the top of the gunwale shall be not less than that shown in Table 160.035-3.

(5) The thwart ends shall be fitted between flanges, or may be installed on top of both flanges, of a thickness not less than the bottom shell plating and secured to the thwart by two bolts in addition to the bolts through the gunwale braces. Each flange shall be riveted to the shell with rivets of the same size as used to connect the side and bottom plating and spaced not less than ten to the foot. The flanges shall extend inboard to take the brace bolts and shall be 1 inch in width less than the thwart. The ends of the thwart shall be not less than 3/8 inch and not more than 3/4 inch from the shell.

(6) The edges of all thwarts, side, and end benches shall be well rounded.

(7) Suitable foot rests shall be furnished at a distance of between 17 to 20 inches below the thwarts and side benches. This may be accomplished by raising the footings from the bottom of the boat.

(8) Side and end benches shall be solid or close planked, not less than the following thicknesses:

TABLE 160.035-3(m)(8)

Length of lifeboat	Fir or pine	Plywood
Up to 24 feet.....	Inch 3/4	Inch 5/8
24 feet to and including 28 feet.....	1	3/4

<sup>1</sup> Plywood, if used, shall be at least equal to Military Specification MIL-P-18068, Plywood, Ship and Boat Construction, Class 1, or Commercial Standard CS-45 for Douglas-Fir Plywoods Exterior Grades A-A, A-B, A-C, or B-B, "Marine Exterior".

(n) *Stretchers*. (1) Stretchers of sufficient size and strength shall be fitted in suitable positions for rowing.

(o) *Stanchions*. (1) Fir or yellow pine stanchions of a size not less than that shown in Table 160.035-3 shall be fitted in all lifeboats where the unsupported length of the thwarts exceeds 4 feet.

(p) *Footings*. (1) Fir, pine, or plywood footings, of a thickness not less than that shown in paragraph (m)(8) of this section, shall cover the bottom of the lifeboat between the side tanks. If fir or pine footings are used, they shall be not less than 7 1/2 inches wide or more than 9 1/2 inches wide and they shall be spaced not more than 2 inches apart.

(2) The footings shall be made readily detachable and so arranged that the drain plugs are at all times directly accessible without removing the footings.

(q) *Disengaging apparatus*. (1) Connections for the disengaging apparatus shall have a minimum factor of safety of six.

(2) For construction and capacity of disengaging apparatus, see Subpart 160.033.

(r) *Plugs*. (1) Each lifeboat shall be fitted with an automatic plug so designed and installed as to insure complete drainage at all times when the boat is out of the water. The automatic plug shall be provided with a cap attached to the lifeboat by a suitable chain.

(s) *Protection against corrosion*. (1) All steel or iron entering into the construction of lifeboats shall be galvanized by the hot dipped process. All fabricated pieces or sections are to be galvanized after fabrication. Other methods of corrosion prevention will be given special consideration.

(2) Where welded construction is employed, the material shall be galvanized after welding unless impractical to do so in which case consideration will be given to equivalent protection.

(3) Provisions shall be made to obtain a satisfactory bond between the metal and the paint.

(t) *Rudders*. (1) Each lifeboat for vessels in ocean, coastwise, and Great Lakes service shall be fitted with a rudder and tiller. The rudder shall be constructed of clear straight grained oak, properly strengthened with drifts or straps or plywood properly strengthened with straps of a thickness not less than that shown in Table 160.035-3.

## RULES AND REGULATIONS

The thickness may be reduced  $\frac{1}{8}$  inch if check pieces are fitted extending beyond the lower pintle connection. The oak rudder shall be stiffened across the bottom edge by a piece of wood of the same character or by a metal shoe. Plywood rudders shall be stiffened across the bottom edge by a metal shoe of a "U" type construction, with the fasteners located on the sides of the rudder in lieu of the bottom. Consideration will be given to the use of hollow metal rudders provided they are designed to float. Plywood, if used, shall be at least equal to Military Specification MIL-P-18066, Plywood, Ship and Boat Construction, Class 1, or Commercial Standard CS-45 for Douglas-Fir Plywoods Exterior Grades A-A, A-B, A-C, or B-B, "Marine Exterior". The rudders shall be fitted with a  $\frac{1}{2}$ -inch diameter manila lanyard of such length as to permit the rudder to be shipped without untying the lanyard.

(2) The lower attachment of the rudder to the sternpost shall be by a gudgeon and pintle. The upper attachment shall be of the triple or double gudgeon drop pin type. Where the double gudgeon type is used, the pin shall be attached to the rudder by a chain.

(3) A suitable hinged or pivoted tiller shall be provided.

(4) Rudder stops shall be provided to limit the rudder angle to approximately 45 degrees each side of the centerline.

(u) **Buoyancy tanks.** (1) All lifeboats shall have inherent buoyancy, or shall be fitted with buoyancy tanks or other equivalent noncorrodible buoyancy units, which shall not be adversely affected by oil or oil products, sufficient to float the boat and its equipment when the boat is flooded and open to the sea. An additional volume of buoyancy, or buoyancy units, equal to at least one-tenth the cubic capacity of the lifeboat shall be provided.

(2) At least 50 percent of the buoyancy shall be located along the sides of the boat and it shall be so located that the boat will be on even keel when flooded.

(3) The tops of the buoyancy tanks or buoyancy units shall be protected by the side benches or other suitable means. The construction shall be such that water will not collect on the tops of the tanks.

(4) The buoyancy tanks shall have a name plate attached in such a location as to be visible from within the boat. The name plate shall be in accordance with subparagraph (7) (iv) of this paragraph.

(5) Buoyancy tanks shall be double riveted and caulked, hook jointed and soldered, or welded.

(6) **Independent buoyancy tanks.**

(i) Independent buoyancy tanks shall be securely fastened in such a manner that they may be temporarily removed for inspection purposes. Fastenings shall not pierce the buoyancy tanks.

(ii) The material for the buoyancy tanks shall be of a thickness not less than that noted below:

Capacity (cubic feet)	USSG
Not over 6.....	22
Over 6, not over 15.....	20
Over 15.....	18

(iii) A bolted inspection plate shall be provided in such a location that the tank will be accessible for inspection and repair.

(iv) Each independent buoyancy tank shall be filled with buoyancy material. The amount of material required shall be determined by the flooding test in accordance with § 160.035-11(b) (2). The buoyancy materials used shall meet the requirements set forth for core material in subparagraph (7) (ii) of this paragraph.

(7) **Independent buoyancy units.** (i) Buoyancy units shall be securely fastened in such a manner that they may be temporarily removed for inspection purpose. Fastenings shall not pierce the buoyancy units.

(ii) The materials for the buoyancy units shall be as follows:

TABLE 160.035-3(u) (7)

Core.....	Polystyrene.....	MIL-P-40619.
		MIL-P-19644.
		MIL-P-21929.
Density.....	Polyurethane.....	Nominal. <sup>1</sup>
Cover, FRP <sup>2</sup> .....	2.0 lbs./cu. ft.....	MIL-C-19063.
	Woven roving.....	MIL-M-15617.
	Mat.....	MIL-Y-1140.
	Cloth and tape.....	

<sup>1</sup> The density required shall be a nominal 2.01 lbs./cu. ft. This contemplates a range of 1.5 to 2.5 lbs./cu. ft. density provided all of the requirements of a 2.0-lb. pour are met.

<sup>2</sup> The cover is to be reinforced with a polyester, or epoxy resin, having a minimum thickness of 0.06. The resin shall be fire retardant in accordance with Military Specification MIL-R-21607.

(iii) The buoyancy units shall have a nameplate attached in such a location as to be visible from within the boat.

(iv) The nameplate shall be made of a noncorrosive metal or of suitable plastic, attached in a permanent manner and contain the following information:

Lifeboat buoyancy unit or tank

Type (or model) .....

Cubic feet ..... Weight .....

Date .....

Name and address of the manufacturer .....

(v) The volume of buoyancy units required shall be determined in accordance with the method set forth for buoyancy tanks in § 160.035-11(b) (2).

(8) **Built-in buoyancy tanks.** (i) A bolted inspection plate shall be provided in such a location that the tank will be accessible for inspection and repair.

(ii) The tops and sides of all built-in buoyancy tanks shall not be less than 14 USSG, except that 16 USSG may be used at the ends if severe forming is necessary. All bulkheads of built-in buoyancy tanks shall be not less than 16 USSG.

(iii) Each built-in buoyancy tank shall be filled with buoyancy material. The amount of material required shall be determined by the flooding test in accordance with § 160.035-11(b) (2). The buoyancy materials used shall meet the requirements set forth for core materials

in subparagraph (7) (ii) of this paragraph.

(v) **Equipment stowage.** (1) Provision lockers, water tanks, and special equipment lockers shall be watertight and so designed and located as to fit under the side benches, end benches, or footings without projecting into the accommodation spaces of the lifeboat. In special cases, stowage under the thwarts will be permitted. Standard  $\frac{1}{4}$ -inch pipe size testing nipples shall be fitted to all such lockers or tanks.

(2) Water tanks shall be constructed of at least 18 USSG material. An opening with a dogged type cover shall be provided for removal of water cans. This opening shall be at least 7 inches in diameter, but in any case shall be of sufficient size that all water cans can be removed. In addition, built-in water tanks shall have an opening at least 13 inches in diameter with a bolted cover for the purpose of inspection and maintenance. A 2-inch diameter fill cap shall be installed for the purpose of storing rain water. A standard  $\frac{1}{4}$ -inch pipe size drainage nipple with hexagonal cap shall be fitted in the bottom of the tank in an accessible location and may be used for air testing the water tank.

(w) **Grab rails.** (1) Grab rails shall be substantially attached to each lifeboat below the turn of the bilge and extend approximately one-half of the length of the lifeboat on each side. The ends of the grab rails shall be faired to prevent fouling and all connections of the rails to the lifeboat shall be made by riveting the palms of the brackets to a small plate and riveting the plate to the shell. To prevent rupture of the shell if the grab rail is carried away, more rivets shall be used in attaching the plate to the shell than in fastening the bracket to the plate. The clearance between the grab rail pipe and the hull shall be at least  $1\frac{1}{2}$  inches. The connections of the rails to a fibrous glass reinforced plastic lifeboat hull, will be given special consideration.

(x) **Hand rails.** (1) All lifeboats intended for use in ocean and coastwise service shall be fitted with hand rails approximately 18 inches in length, constructed and attached to the lifeboat in the same manner as the grab rails required by paragraph (w) of this section. The clearance between the hand rail pipe and the hull shall be at least  $1\frac{1}{2}$  inches. The hand rails shall be located approximately parallel to and at both ends of the grab rails and spaced midway between the grab rail and the gunwale and midway between the grab rail and the keel on both sides of the lifeboat, provided that, when the distance from grab rail to gunwale or to the keel exceeds 4 feet, two hand rails shall be fitted so as to provide equal spacing. In no case shall the hand rails project beyond the widest part of the boat. Recessed hand rails or other alternate arrangements will be given consideration.

TABLE 160.035-3

Length of boat not over (feet)	Bar keel, stem, and sternpost (inches)	Gunwales		Shell plating		Thwarts			Stanchions (inches)	Painter shackles (nominal size)	Rudder thickness (inches)
		Angle bar (inches)	Flanged flat bar (inches)	Side (USSG)	Bottom (USSG)	Number required	Distance from top of thwart to top of gunwale (inches)	Size (inches)			
12.0	2 1/2 x 3/4	2 x 1 1/4 x 3/4	3 1/4 x 3/4	18	18	4	9	1 1/2 x 7/8	1 1/2 x 3/4	3/4	1
14.0	2 1/2 x 3/4	2 x 1 1/4 x 3/4	3 1/4 x 3/4	18	18	4	9	1 1/2 x 7/8	1 1/2 x 3/4	3/4	1
16.0	2 1/2 x 3/4	2 x 1 1/4 x 3/4	3 1/4 x 3/4	18	18	4	9	1 1/2 x 7/8	1 1/2 x 3/4	3/4	1
18.0	2 1/2 x 3/4	2 x 2 x 3/4	4 x 3/4	18	18	4	9	1 1/2 x 7/8	1 1/2 x 3/4	3/4	1
20.0	2 1/2 x 3/4	2 x 2 x 3/4	4 x 3/4	16	16	5	9	1 1/2 x 7/8	1 1/2 x 3/4	3/4	1
22.0	2 1/2 x 3/4	2 x 2 x 3/4	4 x 3/4	16	14	5	9	1 1/2 x 7/8	1 1/2 x 3/4	3/4	1
24.0	3 x 3/4	2 1/2 x 2 x 3/4	4 1/4 x 3/4	16	14	5	10	1 1/2 x 9/8	1 1/2 x 3/4	3/4	1 1/4
26.0	3 x 3/4	2 1/2 x 2 x 3/4	4 1/4 x 3/4	14	12	6	10	1 1/2 x 9/8	1 1/2 x 3/4	3/4	1 1/4
28.0	3 1/2 x 3/4	2 1/2 x 2 1/4 x 3/4	5 x 3/4	12	12	6	10	1 1/2 x 9/8	1 1/2 x 3/4	3/4	1 1/4
30.0	3 1/2 x 3/4	2 1/2 x 2 1/4 x 3/4	5 x 3/4	12	12	7	11	1 1/2 x 9/8	1 1/2 x 3/4	3/4	1 1/4
32.0	4 x 3/4	2 1/2 x 2 1/4 x 3/4	5 x 3/4	12	12	7	11	1 1/2 x 1 1/8	1 1/2 x 3/4	3/4	1 1/4
34.0	4 x 3/4	2 1/2 x 2 1/4 x 3/4	5 x 3/4	12	12	8	11	1 1/2 x 1 1/8	1 1/2 x 3/4	3/4	1 1/4
36.0	4 x 1	2 1/2 x 2 1/4 x 3/4	5 x 3/4	12	12	8	11	1 1/2 x 1 1/8	1 1/2 x 3/4	3/4	1 1/4

NOTE: Hoisting shackles, if provided, shall have a factor of safety of 6 based on the lowering weight of the fully loaded lifeboat.

§ 160.035-4 Construction of steel hand-propelled lifeboats.

(a) A hand-propelled lifeboat shall comply with all the requirements for an oar-propelled lifeboat, and in addition, shall have sufficient additional buoyancy to compensate for the weight of the hand-propelling gear.

(b) The hand-propelling gear shall be of an approved type and shall be substantially constructed and securely fitted in the lifeboat. The design shall be such that the lifeboat may be readily maneuvered from the ship's side after being launched and steering way maintained under adverse weather conditions. Provisions shall be made for going astern. The hand-propelling gear shall propel the lifeboat with only a normal amount of effort while maintaining an average speed of not less than 3 knots over a measured course of not less than 1,000 feet.

(c) The hand-propelling gear shall be so designed that it may be operated by persons untrained in its use, and shall be operable when the boat is flooded.

(d) For construction of Hand-Propelling Gear, See Subpart 160.034.

§ 160.035-5 Construction of steel motor-propelled lifeboats with and without radio cabin.

(a) General provisions applicable to all motor-propelled lifeboats. (1) A motor-propelled lifeboat, carried as part of the lifesaving equipment of a vessel, whether required or not, shall comply with all the requirements for an oar-propelled lifeboat, and in addition, shall have sufficient additional buoyancy to compensate for the weight of the engine and other equipment.

(2) The engine shall be enclosed in a suitable engine box which shall be watertight with the exception of the top which may be weathertight. If the engine box is made of material other than steel or aluminum, such as fibrous glass reinforced plastic, it shall be made of fire retardant material. The top of the engine box shall be fitted with a screw-

down mushroom vent. The engine box shall be fitted with a suitable drain. There shall be ample space between the engine and the engine box to permit proper maintenance and removal of engine accessories when necessary. If the internal arrangements of the engine in the engine box does not permit this, then suitable watertight hand-hole plates shall be installed in the vicinity of these accessories. The location of these plates and the accessibility to the accessories shall be to the satisfaction of the marine inspector. The marine inspector may require the removal of any accessory through these hand-hole plates that he may deem necessary to establish that it is of proper size and location.

(3) Fuel tanks shall be constructed of steel, fibrous glass reinforced plastic or other approved equivalent. Fuel tanks shall be adequately supported and securely fastened inside the lifeboat to prevent any movement. Fuel tanks shall have no openings in the bottom, sides or ends. Openings for fill, vent and feed pipes shall be on the top surface of the tanks. The access openings in the thwarts for the fill tank cap shall have a flush cover or the top of the cap shall be flush with the top of the thwart. Fuel tanks shall be provided with a shut off valve at the tank, where it is readily accessible and the location marked. Tanks shall be designed with a factor of safety of not less than 4, and shall be tested by a static head above the tank top of 10 feet of water without showing leakage or permanent deformation. A graduated measurement stick or other means shall be provided to determine the amount of fuel in the tank.

(1) Steel diesel oil fuel tanks shall have a thickness of not less than 12 USSG and shall not be galvanized on the inside; however, the outside of such tanks shall be so treated as to obtain a corrosion resistance approximately equivalent to hot-dip galvanizing. Swash plates shall be fitted in tanks over 30 inches in length.

(11) Fibrous glass reinforced plastic diesel oil fuel tanks shall have a thickness

of not less than 0.187 inch. The resins used shall be of a fire retardant type and shall qualify under military specification MIL-R-21607. The mechanical properties of the tank shall not be less than Grade No. 4 of military specification MIL-P-17549. Mat, woven roving and 100th cloth shall be used. Tank laminates shall not be constructed exclusively with fibrous glass fabrics. An increment of random oriented, chopped fibrous glass reinforcement is deemed necessary to prevent porosity. An ounce and a half per square foot is considered minimum. Inclusion of fabrics in low pressure laminates are recommended to impart satisfactory containment, strength, and rigidity. For maximum strength, tank surfaces should be cambered and curved wherein practical. Fittings shall be made of nonferrous metal and securely bonded to the tank with epoxy resin. A fibrous glass reinforced plate or boss of the same thickness as the tank proper and 1 1/2 times the outside dimensions of the fitting shall be used to strengthen the openings for fuel, fill and vent lines. Tanks shall be constructed of a minimum possible number of sections. Where two parts are joined there shall be a minimum of 2-inch overlap. Tanks exceeding 18 inches in any horizontal dimension shall be fitted with vertical baffle plates at intervals not exceeding 18 inches. Baffle plate flanges shall be integral and shall be of the same strength and stiffness as the tank wall. Flanges shall be bonded in place with mat and fabric. A suitable striking plate shall be installed at the bottom of the fuel measurement and fill pipe line. The laminate may be increased in thickness, in the way of the fill pipe. The cover of the fuel tank shall be through bolted as well as bonded. All fuel tanks shall bear legible, permanent labels, conveniently located for visual inspection, signifying full compliance with these specifications and including the following:

- (a) Manufacturer's name and address.
- (b) Date of construction and the inspector's initials.

## RULES AND REGULATIONS

(c) Wall thickness (in decimals of one inch) and capacity U.S. gallons.

(d) Material of construction: Polyester—Glass.

(4) Propeller shafting shall be of bronze or other suitable corrosion resistant materials. Fittings, pipes, connections, etc., shall be of high standard and good workmanship, and installed in accordance with good marine practice. The exhaust manifold shall be suitably insulated.

(5) All engines shall be permanently installed and shall be equipped with an efficient cranking system. This system shall be one that can be operated by hand, such as a hand cranking, hydraulic cranking, or inertia cranking system, acceptable to the Commandant. If an electric cranking system consisting of an electric starter motor, generator and batteries are fitted, it shall be in addition to the required acceptable cranking system, the battery or batteries shall be installed within the watertight engine box. The battery box shall be so constructed as to retain the battery in position when the lifeboat is in a seaway. The battery box shall be 1 inch longer and 1 inch wider than the battery and shall be lined with 4-pound lead flashed up 3 inches on the sides and ends. The battery box may be made of fibrous glass reinforced plastic using a fire-retardant epoxy resin. This type of battery box will not be required to be lead lined.

(i) *Engines.* The engine shall be a reliable, marine, compression-ignition type and shall be capable of propelling the fully equipped and loaded lifeboat at a sustained speed of not less than 6 knots through smooth water over a measured course. Provision shall be made for going astern. Sufficient fuel for 24 hours continuous operation at 6 knots shall be provided. The engine used in approved lifeboats shall be capable of being started without the use of starting aids at a temperature of 20° F., by the use of an acceptable cranking system. If water cooled, the engine shall be equipped with a closed fresh water cooling system. This system shall be cooled by a secondary medium, such as a water cooled heat exchanger.

(ii) The hydraulic cranking system shall be a self-contained system which will provide the required cranking forces and engine r.p.m. as recommended by the engine manufacturer. The capacity of the hydraulic cranking system shall provide not less than six cranking cycles. Each cranking cycle shall provide the necessary number of revolutions at the required r.p.m. to the engine to meet the requirements of carrying its full rated

load within twenty seconds after cranking is initiated with intake air and hydraulic cranking system at 20° F. Capacity of the hydraulic cranking system sufficient for three cranking cycles under the above conditions, shall be held in reserve and arranged so that the operation of a single control by one person will isolate the discharged or initially used part of the system and permit the reserve capacity to be employed. The hydraulic cranking system shall consist of a hydraulic cranking motor, control valve, high pressure filter, 3-gallon reservoir (minimum), hand pump, and two accumulators (with protective relief valves) of a minimum capacity of 1½ gallons each. Each accumulator shall be fitted with an adequate pressure gauge (5,000 p.s.i.), located in such a position that it can readily be seen by the engine operator. The hand operated recharging pump shall be located to provide easy attachment and unobstructed operation of the portable handle. The installation of an engine-driven pump is recommended but is not required. The hydraulic cranking system shall meet the requirements outlined in §§ 54.01-1(e), 54.01-1(e) (3), 55.17, 57.05-1, 61.25-5(c), 61.25-20, 61.30-5(d), 61.30-10(c), and 61.40-5 of this chapter.

(6) The following tools to perform emergency repairs and ordinary servicing shall be provided:

- One 12 oz. ball peen hammer.
- One screwdriver with 8-inch blade.
- One pair of 8-inch slip joint pliers.
- One 8-inch adjustable end wrench.
- One Phillips or cross head screwdriver with a 6-inch blade.

(b) *Steel motor-propelled lifeboats without radio cabin or searchlight (Class 1).* (1) The engine shall be a reliable marine type and shall be in accordance with paragraph (a) (5) (i) of this section. If a starting battery is supplied, the engine shall be fitted with a marine type generator or alternator insulated as required by AIEE rules for marine service capable of charging the starting batteries. The battery box shall be in accordance with paragraph (a) (5) of this section.

(c) *Steel motor-propelled lifeboats without radio cabin but with searchlight (Class 2).* (1) The engine shall be of a reliable marine type and shall be in accordance with paragraph (a) (5) (i) of this section. The lifeboat shall be equipped with a searchlight constructed

<sup>1</sup> The hydraulic system when used in lifeboats as engine cranking systems shall be leak-tested at the specified operating pressure after installation.

in accordance with Subpart 161.006 of this Subchapter Q (Specifications). The engine shall be fitted with a marine type generator or alternator insulated as required by AIEE rules for marine service capable of charging the batteries used for the searchlight as well as the starting batteries, if fitted. The battery box shall be in accordance with paragraph (a) (5) of this section.

(d) *Steel motor-propelled lifeboats with radio cabin and searchlight (Class 3).* (1) The engine shall be a reliable, marine type and shall be in accordance with paragraph (a) (5) (i) of this section. The engine shall be fitted with a marine type generator or alternator insulated as required by AIEE rules for marine service, capable of charging the batteries used for the radio and searchlight as well as the starting battery, if fitted.

(2) The radio and source of power for the radio and the searchlight shall be housed and protected from the elements by a suitable radio cabin. The entire installation shall comply with the requirements of the Federal Communications Commission, Rules Governing Stations on Shipboard in the Maritime Services. The radio cabin shall be of a size to contain the radio and source of power for the radio and searchlight, and the operator of the equipment. The top and sides of the radio cabin shall be watertight with the exception of the door which need not be watertight but shall be at least weathertight. The installation of the radio cabin shall take into consideration the concentration of weight in this area.

(3) The searchlight shall be of an approved type constructed in accordance with specification Subpart 161.006 of this subchapter and shall be securely mounted on top of the radio cabin.

(4) The batteries shall be installed in a box securely fastened inside the radio cabin. The battery box shall be in accordance with paragraph (a) (5) of this section.

#### § 160.035-6 Construction of aluminum spar, hand-, and motor-propelled lifeboats.

(a) *General.* Aluminum lifeboats shall comply with the general requirements for the construction and arrangement of steel lifeboats unless otherwise specified.

(b) *Specifications.* The following specifications and schedules of lifeboat material, including Tables 160.035-8, and 160.035-8(d) (1) shall be complied with unless other arrangements in matters of construction details, design, and strength equivalent in safety and efficiency are approved by the Commandant.

TABLE 160.035-6—ALUMINUM LIFEBOATS

Length of boat not over— Feet	Bar keel, stem and sternpost Inches	Gunwales <sup>1</sup>			Shell plating (Brown and Sharpe gage) <sup>2</sup>											
		Angle bar		Flanged flat bar	Independent air tanks				Built-in-air tanks							
		5086-H112	5086-H112	5086-H112	5062-H32		6061-T6		5062-H32			6061-T6				
		6061-T6	6061-T6	6061-T6	Side	Bottom	Side	Bottom	Side	Bottom	Inner shell	Bulk-heads	Side	Bottom	Inner shell	Bulk-heads
12.0	2 3/4 x 3/8	2 3/4 x 2 x 3/8	4 x 3/8	14	14	14	14	14	14	14	14	14	14	14	14	14
14.0	2 3/4 x 3/8	2 3/4 x 2 x 3/8	4 x 3/8	14	14	14	14	14	14	14	14	14	14	14	14	14
16.0	2 3/4 x 3/8	2 3/4 x 2 1/4 x 3/8	4 1/2 x 3/8	14	14	14	14	14	14	14	14	14	14	14	14	14
18.0	3 x 3/4	2 3/4 x 2 1/4 x 3/8	4 3/4 x 3/8	14	14	14	14	14	14	14	14	14	14	14	14	14
20.0	3 x 1	2 3/4 x 2 1/4 x 3/8	5 x 3/8	18	18	18	18	18	18	18	18	18	18	18	18	18
22.0	3 x 1	2 3/4 x 2 1/4 x 3/8	5 x 3/8	12	12	12	12	12	12	12	12	12	12	12	12	12
24.0	3 1/4 x 1	2 3/4 x 2 1/4 x 3/8	5 x 3/8	11	11	11	11	11	11	11	11	11	11	11	11	11
26.0	3 1/4 x 1	2 3/4 x 2 1/4 x 3/8	5 x 3/8	10	10	10	10	10	10	10	10	10	10	10	10	10
28.0	3 1/4 x 1	2 3/4 x 2 1/4 x 3/8	5 x 3/8	9	9	9	9	9	9	9	9	9	9	9	9	9
30.0	4 x 1	3 x 2 3/4 x 3/8	5 1/4 x 3/8	9	9	9	9	9	9	9	9	9	9	9	9	9
32.0	4 x 1	3 x 2 3/4 x 3/8	5 1/4 x 3/8	8	8	8	8	8	8	8	8	8	8	8	8	8
34.0	4 x 1	3 x 2 3/4 x 3/8	5 1/4 x 3/8	8	7	8	7	8	7	8	7	8	7	8	7	8
36.0	4 x 1	3 x 2 3/4 x 3/8	5 1/4 x 3/8	7	6	8	7	8	7	8	7	8	7	8	7	8

<sup>1</sup> Extruded shapes having substantially the scantlings of the angle bar gunwales are permitted. Where extruded shapes are used, a noting as per § 160.035-9(i) is not required provided the extruded shape has at its heel a generously rounded curve.  
<sup>2</sup> Brown and Sharpe gage decimal values: 15 gage equals 0.06707; 14 gage equals 0.06408; 13 gage equals 0.07106; 12 gage equals 0.06801; 11 gage equals 0.06074; 10 gage equals 0.1018; 9 gage equals 0.1144; 8 gage equals 0.1285; 7 gage equals 0.1443; and 6 gage equals 0.1620.

(c) **Materials.** (1) Plating for shell, air tanks, etc., shall be as shown in Table 160.035-6.

(d) **Riveting.** (1) Where riveting is employed in the construction of the shell, double riveting shall be used. The centers of the rivets in the row nearest the edge of the sheet shall not be less than 3/8 inch nor more than 1/2 inch from the edge. Rivets shall be staggered with not less than 18 rivets to the foot and shall be countersunk head or button head rivets. The diameter of the rivets shall be not less than that shown in Table 160.035-6(d)(1).

(2) The rivet alloy shall be 6053-T61 for all applications.

(3) Riveting of the shell plating to the keel, stem and sternpost shall be button head rivets, staggered with not less than 12 rivets to the foot. The distance from the edge of the plate to the center of the rivets in the nearest row shall be not less than 1/2 inch nor more than 3/4 inch. Rivets connecting the shell to the gunwale shall be spaced not more than 3 inches on centers. The size of the rivets for connecting the shell plating to the keel, stem, and sternpost and gunwale shall be not less than that shown in Table 160.035-6(d)(1).

(4) The connection of the floors to the shell shall be made by a single row of rivets of a size not less than that shown in Table 160.035-6(d)(1).

the bottom plating. When the doublers are installed, they shall not be less than 6 inches in width.

(ii) The doublers shall be fastened to the shell plating with the same rivets as required for the shell plating and they shall be staggered with no less than 18 rivets per foot around all edges of the doubler plate.

(iii) Prior to riveting, the complete surface between the shell plating and the doublers shall be treated with suitable insulating compounds. After riveting the faying joints shall be caulked.

(iv) All riveted seams and butt laps, laps of plating on the keel, gunwale, stem and sternpost, shall be made over boundary bar tape such as: P.A.W. tape, Tran-tex V-20 vinyl tape, EC-1202 Butyl rubber tape, Alumlastic or suitable equivalent nonabsorbing materials. In general the insulating tape should be 1 1/4 to 1 1/2 inches in width. Under no circumstances should red lead be applied nor should an absorbent felt be used as tape in the riveted joint whether or not it is saturated with red lead.

(h) **Gunwales.** (1) Dimensions of angular gunwales shall be not less than that shown in Table 160.035-6.

(2) Flanged plates made from flat bars, dimensions of which shall not be less than that shown in Table 160.035-6, may be substituted for angular gunwales.

(i) **Dissimilar metals.** (1) Where in the construction of aluminum lifeboats the use of dissimilar metals are employed such as, the installation of the mechanical disengaging gear, hand propelling gear, or engine, suitable insulation between the aluminum and these metals shall be used. Porous or absorbent materials shall not be used as insulating materials. Only non-porous materials such as plastics, rubber or neoprene base compounds, or micarta shall be used. Other suitable material will be given separate consideration. Fasteners used in joining dissimilar metals together shall be of the type that will minimize corrosion.

TABLE 160.035-6(d)(1)—RIVETING

Length of boats, not over—(feet)	Shell (inch No./ft.)	Shell to keel (inch No./ft.)	Floors	Gunwales (inch No./ft.)
12.0	3/8 @ 18	5/16 @ 12		3/8 @ 4
14.0	3/8 @ 18	5/16 @ 12		3/8 @ 4
16.0	3/8 @ 18	5/16 @ 12		3/8 @ 4
18.0	3/8 @ 24	5/16 @ 12		3/8 @ 4
20.0	3/8 @ 24	5/16 @ 12		3/8 @ 4
22.0	3/8 @ 24	5/16 @ 12		3/8 @ 4
24.0	3/8 @ 24	5/16 @ 12		3/8 @ 4
26.0	3/8 @ 24	5/16 @ 12	3/8" @ 4 per foot or 5/16" @ 6 per foot.	3/8 @ 4
28.0	3/8 @ 24	5/16 @ 12		3/8 @ 4
30.0	3/8 @ 24	5/16 @ 12		3/8 @ 4
32.0	3/8 @ 24	5/16 @ 12		3/8 @ 4
34.0	3/8 @ 24	5/16 @ 12		3/8 @ 4
36.0	3/8 @ 24	5/16 @ 12		3/8 @ 4

(e) **Welding.** (1) Welding may be substituted for riveting in the following locations: Hoist plate to keel, disengaging gear grace plate to stem and sternpost, rudder attachment fitting to the sternpost, and the propeller shaft stern tube to the sternpost. When using 6061-T6 aluminum, the welded area is to be heat-treated and checked by X-ray to assure a satisfactory weld. When using 5086-H 112 aluminum, the welded area is to be checked by a nondestructive test method such as X-ray, ultrasonic waves or fluorescent materials, to assure a satisfactory weld. Other methods of checking aluminum welds will be given separate consideration. The welding shall be performed by a welder qualified

by the U.S. Coast Guard, American Bureau of Shipping, or U.S. Navy Department, and only suitable electrodes shall be used. Details of the joints shall be indicated on the construction drawings submitted for approval.

(f) **Keel, stem and sternpost.** (1) Dimensions shall be not less than those shown in Table 160.035-6.

(g) **Shell plating.** (1) The thickness of the shell plating shall be not less than that shown in Table 160.035-6.

(2) **Doubler plates.** (1) The doubler plates shall be fitted on all lifeboats where the shell is liable to damage, wear, or corrosion from contact with chocks, gripes, etc. Doublers shall be of the same alloy and not less in thickness than

**§ 160.035-7 Construction of wood oar-, hand-, and motor-propelled lifeboats.**

(a) Wooden lifeboats are prohibited on tank vessels. No specification requirements for new construction are in effect at this time.

**§ 160.035-8 Construction of fibrous glass reinforced plastic (F.R.P.), oar-, hand-, and motor-propelled lifeboats.**

(a) *General requirements.* (1) Plastic lifeboats shall comply with the general requirements for the construction and arrangement of steel lifeboats, except that unless otherwise specified, materials, scantlings, methods of construction, fastenings, methods of attachment of component parts, and other specific construction details may be varied by the builder in order to produce a structurally sound boat meeting in every respect recognized standards of first class construction and one which will satisfactorily meet the performance requirements set forth in this subpart.

(2) Fibrous glass reinforced plastic lifeboats may be of the following categories of hull construction:

- A—Single piece, outer hull construction.
- B—Two piece, outer hull construction.
- C—Single piece, inner hull construction.
- D—Two piece, inner hull construction.
- E—Multi-piece, inner hull construction.

(b) *Specific requirements.* (1) *Resin.* The resin shall be qualified under the requirements of Military Specification MIL-R-21607. Class A resin shall be fire retardant without additives. Class B resin shall be fire retardant with additives. When Class B resin is used for the prototype lifeboat, additives for fire retardancy shall not be used in order to obtain a translucent laminate for inspection purposes. This prototype test lifeboat will not be stamped approved, nor will it be acceptable for merchant vessels. Whichever class of resin the manufacturer decides to use for his prototype lifeboat, shall be used in his production lifeboats. A note to this effect shall be included in his specifications and drawings for this particular size and type lifeboat.

(2) *Glass reinforcement.* All glass, cloth, mat, or woven roving shall be of a type having good laminated wet strength retention.

(3) *Laminata.* All exposed surfaces of the finished laminate shall present a smooth finish, and there shall be no protruding surface fibers, open voids, pits, cracks, bubbles or blisters. The laminate shall be essentially free from resin starved or over impregnated areas, and no metal staples, paper tape or other foreign matter shall remain in the finished laminate. The entire laminate shall be fully cured and free of tackiness, and shall show no tendency to delaminate, peel, or craze in any overlay. For the prototype boat of each design made by each individual manufacturer, the lay up shall be made with unpigmented clear resins so that all details of construction will be visible for inspection.

(4) *Weights of F.R.P. lifeboats.* (1) The variations in weight between the

fibrous glass reinforced plastic in the prototype F.R.P. lifeboat and the fibrous glass reinforced plastic in the production F.R.P. lifeboat shall be within 5 percent. This weight shall be for the F.R.P. sections only and shall not include the weight of any hardware or equipment.

(ii) When assembling two similar sections as indicated by categories B and D of paragraph (a) (2) of this section, the weights of the matching F.R.P. pieces shall be within 5 percent of each other.

(iii) The recorded weights of the items indicated in subdivisions (i) and (ii) of this subparagraph shall be kept by the manufacturer, with each boat listed by size, type, and serial number.

**§ 160.035-9 Cubic capacity of lifeboats.**

(a) *Definitions.* The following definitions apply to the measurement of a lifeboat to determine its cubic capacity.

(1) *Length (L).* The length is the distance in feet from the inside of the plating or planking at the stem to the corresponding position at the stern. In the case of a boat with a square stern, the after terminus is the inside of the transom.

(2) *Breadth (B).* The breadth is the distance in feet over the plating or planking at the point where the breadth of the boat is greatest.

(3) *Depth (D).* The depth is the distance in feet amidships inside the plating from the top of the keel to the level of the gunwale. The depth used for calculating purposes shall not exceed 45 percent of the breadth.

(4) *Sheer.* Lifeboats shall have a sheer at each end at least equal to 4 percent of the length, and a sheer at the quarter points of at least 1 percent of the length. If less sheer is provided, the depth used to determine the cubic capacity shall be assumed to be reduced so as to achieve this minimum sheer.

(b) *Formula.* The cubic capacity shall be determined by the following formula:

$$L \times B \times D \times 0.64$$

In the case of lifeboats with unusual proportions, the Commandant may require that the cubic capacity be calculated by

exact measurements from which the exact seating capacity may be determined.

(c) *Hand-propelled lifeboat.* The cubic capacity of a hand-propelled lifeboat shall be determined in the same manner as an oar-propelled lifeboat and then deducting from the gross volume, a volume equal to that occupied by the hand-propelling gear.

(d) *Motor-propelled lifeboat.* The cubic capacity of a motor-propelled lifeboat shall be determined in the same manner as an oar-propelled lifeboat and then deducting from the gross volume, a volume equal to the engine box and accessories, and when carried, the radio cabin, searchlight, and their accessories. The volume of such equipment extending above the sheer line need not be deducted.

**§ 160.035-10 Number of persons allowed in lifeboats.**

(a) The maximum number of persons for which the lifeboat may be rated is determined as noted in subparagraphs (1), (2), and (3) of this paragraph. The smallest number obtained is the number to be used.

(1) The number of persons which a lifeboat shall be permitted to accommodate shall be equal to the greatest whole number obtained by dividing the capacity in cubic feet by the factor shown in Table 160.035-10(a). The net cubic capacity shall be determined by § 160.035-9(b).

TABLE 160.035-10(a)

Length in feet—		Factor
Of—	But less than—	
18	18	14
20	20	15
22	22	16
24	24	17
24	Or over	18

(2) The number of persons permitted in the lifeboat shall not exceed the number for which seating space is provided as determined by drawing figures to scale of a size as noted in Figure 160.035-10(a) (2) on an arrangement plan of the lifeboat.

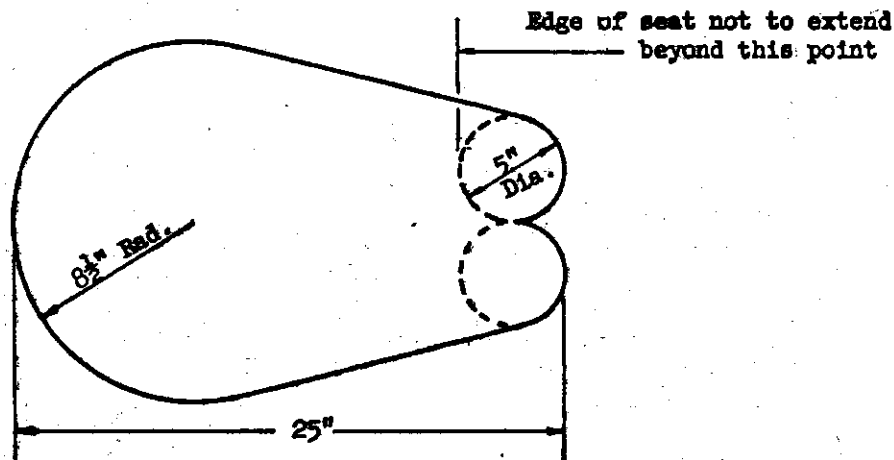


FIGURE 160.035-10(a) (2)

(3) The number of persons permitted in the lifeboat shall not exceed the number of persons wearing life preservers which can be seated in the lifeboat without interfering with the use of the oars or the operation of other propulsion equipment.

§ 160.035-11 Inspection and testing of lifeboats.

(a) *General.* Coast Guard marine inspectors shall be admitted to any place in the builder's factory where work is done on these lifeboats or component materials or parts. Lifeboats shall be inspected during the course of construction to determine that the arrangements and materials entering into the construction are in accordance with approved plans, and to insure that the workmanship is of good quality. Samples of materials entering into construction may be taken by the marine inspectors for such tests as may be deemed necessary at any time there is any question as to suitability or adequacy of any material or arrangement.

(b) *Preapproval tests.* Before approval is granted to any design of lifeboat, the following tests shall be made by a marine inspector:

(1) *Strength test.* The light lifeboat shall be suspended by shackles at the bow and stern, or by means of the releasing gear, and the length, beam, and depth shall be measured. Weights shall then be added to equal the weight of the equipment, food, water, etc., and persons for which the boat is to be approved, and the length, beam, and depth measured. Additional weight shall then be added so that the suspended load is 25 percent greater than the weight of the fully equipped and loaded lifeboat and the measurements repeated. All weights shall then be removed and the measurements rechecked. There shall be no appreciable set as a result of this test.

(2) *Flooding test.* Lifeboats shall be flooded while open to the sea to determine the amount of buoyancy necessary to float the complete boat including releasing gear but with no equipment, provision lockers, water tanks, or fuel tanks aboard. If provision lockers, water tanks, and fuel tanks cannot be removed, they should be flooded or filled to the final waterline. Lifeboats fitted with watertight stowage compartments to accommodate individual drinking water containers shall have these individual containers aboard and placed in the stowage compartments which shall be sealed watertight during the flooding test. Ballast of equivalent weight and density should be substituted for the motor, shaft, propeller, radio, battery, searchlight, etc., if they are to be installed.

(1) *Boats with independent buoyancy tanks or buoyancy units.* The estimated amount of buoyancy to just float the boat in this condition should be fitted symmetrically aboard the lifeboat, and then the boat flooded. If the tops of the gunwales at their lowest point do not clear the surface of the water, the buoyancy shall be increased as necessary. An additional volume of buoyancy, or buoyancy units, equal to at least one-tenth the

cubic capacity of the lifeboat shall be provided.

(ii) *Boats with built-in buoyancy compartments.* When flood testing lifeboats with built-in buoyancy compartments, weights shall be placed in the bottom of the lifeboat to counteract the buoyancy provided for the persons to be carried. The amount of weight required per person carried shall be as follows:

Materials	Weight per person (pounds)
Iron or steel	72
Lead	60
Concrete	110

Other impervious material may be used if more convenient. The weight per person required is determined from the formula  $W = \frac{63d}{d-63}$  where  $d$  is the density of

material in pounds per cubic foot. (Sandbags should not be used for this purpose inasmuch as their weight under water is not readily predictable.) If the lifeboat weighted as above does not float with the gunwale at the lowest point just clear of the surface of the water, unit air tanks should be slipped beneath the thwarts until the gunwales do clear the surface of the water. The additional air tankage required shall be incorporated in the design of the lifeboat.

(3) *Seating capacity test.* The lifeboat shall be fully loaded with equipment, and in this condition the number of persons for which the lifeboat is to be approved shall be seated, in accordance with the seating plan required in § 160.035-14(a). All persons shall wear an approved life preserver and it shall be demonstrated by actual test that there is sufficient room to row the boat without interference.

(4) *Freeboard test.* Freeboards shall be measured to the low point of the sheer with the lifeboat in light condition with neither equipment nor persons aboard, and in the loaded condition with full equipment and persons aboard.

(5) *Stability test.* Upon the conclusion of the seating test, all persons on one side of the centerline shall disembark. The remaining people should sit upright and not move from their original positions. (Not less than one-half in total number of persons should remain in the lifeboat.) Freeboard to the low point of sheer shall then be measured. This freeboard should, in general, be not less than 10 percent of the depth of the lifeboat.

(c) *Motor-propelled lifeboats* shall be subjected to the same tests as required for an oar-propelled lifeboat. In addition, speed tests over a measured course and fuel consumption tests on a time basis shall be made to determine that the fully loaded lifeboat can maintain a speed of 8 knots for all classes of motor-propelled lifeboats, and that there is sufficient fuel for at least 24 hours for each class of motor-propelled lifeboat at its respective speed. A 4-hour endurance trial shall be conducted with the fully loaded lifeboat at the RPM attained in the speed test in order to insure that there is no overheating, undue vibration, or other condition which would warrant

the belief that the lifeboat could not maintain its proper speed for 24 hours. The time consumed in conducting the speed and fuel consumption tests may be counted toward the 4-hour endurance test. It shall be demonstrated that all engines installed in motor lifeboats can be started by the acceptable cranking system installed with no previous warming up period.

(d) *Hand-propelled lifeboats* shall be subjected to the same tests as required for an oar-propelled lifeboat. In addition, a test shall be made to assure that the lifeboat can be satisfactorily maneuvered with the hand-propelling gear. A speed of at least three knots shall be achieved in both light and load condition over a measured course of not less than 1,000 feet.

§ 160.035-12 Additional preapproval tests required for F.R.P. lifeboats.

(a) *General.* These tests are required in addition to the preapproval tests required for steel lifeboats in § 160.035-11. The prototype boat of each size or design submitted will be required to perform satisfactorily in the following tests which will be made in the presence of a marine inspector.

(b) *Strength test.* The following tests described in this paragraph are in lieu of the strength test in § 160.035-11(b) (1):

(1) *Suspension tests.* The light lifeboat shall be suspended freely from the releasing gear and the length, beam, and depth measured. Weights shall then be added to equal the weight of the equipment, food, water, and persons to be carried (see § 160.035-11(b) (2) (ii)), and the length, beam, and depth measured. Additional weights shall then be added so that the suspended load is 25, 50, 75, and 100 percent greater than the weight of the fully equipped and loaded lifeboat and the measurements taken at each 25 percent increments. (Water may be used for all or any portion of the weight if desired.) All weights shall then be removed and final measurements taken. There shall be no fractures or other signs of excessive stress and no appreciable set as a result of this test.

(2) *Chock test.* The light lifeboat shall be placed on blocks located under the keel at the quarter points and measurements of length, beam, and depth taken. The boat shall be flooded with water equal to the weight of all equipment, food, water, and persons to be carried and measurements of length, beam, and depth taken again. Additional measurements of 25, 50, 75, and 100 percent of the weight of the fully equipped and loaded lifeboat shall be added and the measurements taken at 25 percent increments. If the boat becomes full of water before 100 percent overload is reached, no additional weight need be added, and the last deflection measurements with the boat under load shall be taken at this point. The boat shall be drained and final measurements taken. There shall be no fractures or other signs of excessive stress and no appreciable set as a result of this test.

(3) *Swing test.* The boat shall be loaded with weights equal to the weight

## RULES AND REGULATIONS

of all equipment, food, water and persons to be carried. It shall then be suspended by the releasing gear with falls 26 feet in length so arranged that when hanging freely the gunwale on one side of the boat is approximately 2 inches from a stationary concrete or steel wall or other structure of similar construction and rigidity. The boat shall then be hauled outboard a horizontal distance of 8 feet from its original position. From this point, the boat shall be allowed to freely swing inboard and strike the wall along one side. There shall be no damage which would render the boat unseaworthy.

(4) *Drop test.* The boat shall be loaded with weights equal to the full weight of all equipment, food, water and persons to be carried. The boat shall then be suspended freely from the releasing gear and shall be dropped in a free fall into the water from a height of 10 feet. There shall be no damage which would render the boat unseaworthy.

(5) *Thwart test.* A 200-pound sand bag shall be dropped from a height of 6 feet on the center of each thwart span. The thwarts shall not fracture or otherwise be rendered unseaworthy.

(6) *Towing test.* With a towline rigged around the forward thwart in the same manner as the sea painter is normally rigged, the fully loaded lifeboat shall be towed at least 1,000 yards at a speed of not less than 5 knots. The boat shall exhibit satisfactory towing characteristics and there shall be no appreciable damage to the thwart.

(7) *Tanks and lockers.* Equipment tanks and watertight lockers shall be tested with not less than 1.0 p.s.i. of air pressure both before and after the tests described in subparagraphs (1) through (6) of this paragraph.

#### § 160.035-13 Testing and inspection after approval.

(a) *General.* After the design of a lifeboat has been approved subsequent lifeboats of the same design shall be individually inspected and tested as noted in § 160.035-11(a) for metal lifeboats and § 160.035-12(a) for F.R.P. lifeboats. In addition, motors and hand-propelling gear when installed shall be operated in the "ahead", "neutral", and "astern" positions. If mechanical disengaging apparatus is fitted, it shall be tested by suspending the lifeboat loaded with deadweight equivalent to the number of persons allowed in the lifeboat (165 pounds per person) together with the weight of the equipment, plus 10 percent of the total load, including the weight of the lifeboat. The release lever shall then be thrown over with this load suspended until the lifeboat is released. The apparatus shall be capable of being operated freely by one man, without the use of aids or undue force to the satisfaction of the marine inspector. (This test may be conducted ashore by suspending the lifeboat just clear of the ground.)

(b) *Additional production inspection and tests for F.R.P. lifeboats—(1) Inspection requirements.* Each production model fibrous glass reinforced plastic

lifeboat shall as a condition to its being accepted as Coast Guard approved equipment, be examined by a marine inspector at the following stages in its manufacture:

(i) When the major, individual components of the shell and inner hull or buoyancy casing are completed but before they are assembled together. At this stage the marine inspector shall satisfy himself that these components comply with the approved plans and specifications by visual inspection, thickness measurements and comparison of the weights of the components with the weights recorded for the same components in the prototype.

(ii) At the time the internal buoyancy is installed. If block plastic foam is used, it shall be inspected after it has been cut to size and shaped but before it is inserted and covered. The installation shall be completed in the presence of the marine inspector and he shall verify that the required amount is used by weighing the material. If foamed-in-place plastic foam is used, the marine inspector shall be present during the foaming operation. A sample of the foam shall be retained outside the boat and when it sets it shall be used to make a density determination of the material.

(iii) When the boat is completed. At this stage the marine inspector shall check the scantlings of the minor components and the overall compliance with the plans. The manufacturer shall certify that the materials used are in accordance with the approved bill of materials.

(2) *Test requirements.* After the inspections listed in subparagraph (1) of this paragraph are completed, the following tests are to be carried out to the satisfaction of the marine inspector:

(i) The boat shall be suspended freely from the releasing gear and the length, breadth and depth measured. The boat shall then be flooded with water equal to  $1\frac{1}{2}$  times the weight of the boat, persons, equipment, and provisions and fuel (if motor driven) less the weight of the boat. This is represented by the following formula:

$$\text{Water added} = 1.5 \times (\text{empty boat} + \text{equipment} + \text{provisions} + \text{fuel} + \text{people}) - \text{empty boat}$$

The length, breadth and depth shall be measured in this loaded condition and, again, after the load has been removed. The loaded deflections and the permanent deformations shall not significantly exceed those recorded for the prototype in the pre-approval tests. Also, while flooded, the exterior of the hull shall be examined for leaks or other defects. After the boat is drained, the attachment of the release gear shall be carefully examined.

(ii) All provision tanks shall be tested by a static head above the tank top of 2 feet of water without showing leakage or permanent deformation.

(iii) The plastic fuel tanks shall be tested by a static head above the tank top of 10 feet of water without showing leakage or permanent deformation.

(c) *Marking.* (1) A corrosion resistant nameplate shall be affixed at the bow of each lifeboat on which is stamped the name of the manufacturer, serial number, approval number, dimensions of the lifeboat, cubic capacity, buoyancy capacity, net weight of the boat in Condition A and Condition B, the number of persons for which the lifeboat is approved, together with the marine inspector's initials, the date, and the letters U.S.C.G. Condition A includes buoyancy and water tanks and provision stowage compartments but no equipment, provisions, water or persons. Condition B includes full required provisions and equipment, persons allowed at 16 cubic feet or by seating test whichever is less at 165 pounds and 3 quarts of water (8.25 pounds)—per person.

#### § 160.035-14 Procedure for approval of lifeboats.

(a) Before action is taken on any design of lifeboat, plans covering fully the arrangement and construction of the lifeboat, material specifications, together with a lines drawing, stowage arrangement, seating arrangement, and other details shall be submitted to the Commandant through the Commander of the Coast Guard District in which the lifeboat is built. The plans for approval must be detailed to a degree that the lifeboat can be constructed from the plans submitted.

(b) If the drawings required in paragraph (a) of this section are satisfactory, the manufacturer shall notify the Commander of the Coast Guard District in which the lifeboat is built in writing when fabrication is to commence. A marine inspector will be assigned to witness the construction procedure in accordance with the plans, verify the tests required by § 160.035-11 for metal lifeboats and § 160.035-12 for additional tests required for F.R.P. lifeboats. Also, the manufacturer shall provide the necessary tools and facilities required to conduct the tests. The Coast Guard shall have the right to require such other additional tests as reasonably may be deemed necessary, either with the completed boat or component parts, depending upon the particular construction methods and materials used by the builder, or any unusual conditions or circumstances which may arise during the construction or testing.

(c) At the time that the tests are successfully completed, the manufacturer shall present to the marine inspector four corrected copies of the plans noted in paragraph (a) of this section, including any corrections, changes, or additions which may have been found necessary during construction or testing. If the manufacturer desires more than one set of approved plans, additional copies shall be submitted at that time.

(d) Upon receipt of corrected drawings and satisfactory test reports, the Commandant will issue a certificate of approval. No change shall be made in the design or construction without first receiving permission of the Commandant via the Commander of the Coast Guard District in which the lifeboat is built.

**Subpart 160.036—Signals, Distress, Hand-Held Rocket-Propelled Parachute Red Flare, for Merchant Vessels**

45. The authority note for Subpart 160.036 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.036 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.037—Signals, Distress, Hand, Orange Smoke, for Merchant Vessels**

46. The authority note for Subpart 160.037 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.037 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.038—Magazine Chests, Portable, for Merchant Vessels**

47. The authority note for Subpart 160.038 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.038 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, Sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 395, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.040—Line-Throwing Appliance, Impulse-Projected Rocket Type (and Equipment), for Merchant Vessels**

48. The authority note for Subpart 160.040 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.040 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.041—Kits, First-Aid, for Merchant Vessels**

49. The authority note for Subpart 160.041 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.041 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.042—Skids, Liferaft, for Merchant Vessels**

50. The authority note for Subpart 160.042 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.042 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.043—Jackknife (With Can Opener) for Merchant Vessels**

51. The authority note for Subpart 160.043 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.043 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 395, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.044—Pumps, Bilge, Lifeboat, for Merchant Vessels**

52. The authority note for Subpart 160.044 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.044 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**Subpart 160.050—Buoys, Life, Ring, Unicellular Plastic**

53. The authority note for Subpart 160.050 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.050 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 6, 17, 3, 54 Stat. 164, as amended, 166, as amended, 347, as amended, sec. 3, 70 Stat. 152, sec. 4, 67 Stat. 462, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 526e, 526p, 1333, 390b, 43 U.S.C. 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-16, Jan. 3, 1955, 20 F.R. 840; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

54. Section 160.050-1 is amended by adding subparagraphs (2) and (3) to paragraph (a) and by revising paragraph (b) to read as follows:

**§ 160.050-1 Applicable specifications.**

- (a) Specifications. . . .
- (2) Federal Standard:

No. 595—Colors.

(3) Coast Guard specification: 164.015—Plastic foam, unicellular, buoyant, sheet and molded shapes.

(b) Copies on file. Copies of the specifications referred to in this section shall be kept on file by the manufacturer, together with the certificate of approval. The Military Specifications may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa., 19120. The Federal Standard may be obtained from the Business Service Center, General Services Administration, Washington, D.C., 20407. The Coast Guard specification may be obtained from the Commandant, U.S. Coast Guard, Washington, D.C., 20226.

55. Section 160.050-3 is amended to read as follows:

**§ 160.050-3 Materials.**

(a) General. All exposed materials shall be resistant to oil or oil products, salt water and anticipated weather conditions encountered at sea.

(b) Unicellular plastic. The unicellular plastic material used in fabrication of the buoy body shall meet the requirements of Subpart 164.015 of this subchapter for Type C material. The buoy's body shall be finished with two coats of vinyl base paint. The ring life buoys shall be either international orange (Color No. 12197 of Federal Standard 595) or white in color and the colorfastness shall be rated "good" when tested in accordance with Federal Specification CCC-T-191 Methods 5610, 5630, 5650, and 5660.

(NOTE: On vessels on an international voyage, all ring life buoys shall be international orange in color.)

(c) Grab line. The grab line shall be 7/8-inch diameter polyethylene, polypropylene, or other suitable buoyant type synthetic material having a minimum breaking strength of 1,350 pounds.

(d) Beackets. The beackets for securing the grab line shall be 2-inch polyethylene, polypropylene, nylon, saran or other suitable synthetic material having a minimum breaking strength of 585 pounds. In addition, polyethylene and polypropylene shall be weather-resistant type which is stabilized as to heat, oxidation, and ultraviolet light degradation.

(e) Thread. The thread shall be nylon conforming to Type II, Size 4, Class 2, of Specification MIL-T-7807. Alternate threads will be given special consideration.

56. Section 160.050-4 is amended by revising paragraphs (c) and (d) to read as follows:

**§ 160.050-4 Construction and workmanship.**

(c) Grab line. The finished length of the grab line shall be four times the outside diameter of the buoy. The ends of the grab line shall be securely and neatly spliced together, or shall be hand whipped with a needle and both ends securely and smoothly seized together. The grab line shall encircle the buoy and shall be held in place by the beackets.

## RULES AND REGULATIONS

The spliced or seized ends of the grab line shall be placed in the center of the width of one of the beackets.

(d) *Beackets*. Each ring buoy shall be fitted with four beackets located at equidistant points about the body of the buoy. The beackets shall be passed around the body of the buoy with the free ends to the outside, and shall be securely cemented to the buoy with a suitable waterproof adhesive which is compatible with the unicellular plastic used in the buoy body. The ends of the beackets shall be turned under at least 1 inch, one end to go around the grab line, and the other to be laid flat against the first end. The beackets shall then be stitched to the grabline with not less than five hand stitches made with two parts of thread or machined stitched with not less than three stitches per inch. Alternate methods for rigging beackets and grab line will be given special consideration.

57. Section 160.050-5 is amended to read as follows:

§ 160.050-5 Sampling, tests, and inspection.

(a) *General*. A marine inspector shall examine all ring life buoys at the place of manufacture for compliance with this specification. Ring life buoys on a lot basis shall be tested for strength, resistance to damage, and buoyancy in accordance with the methods set forth in paragraphs (c), (d), and (e) respectively of this section with the exception that the test for resistance to damage may be omitted at the discretion of the marine inspector. If the marine inspector has any doubt regarding compliance with this specification, he may make such other examinations and tests as he may deem necessary. The manufacturer shall provide a suitable place and necessary apparatus for the use of the marine inspector in conducting tests at the place of manufacture, and shall provide labor for all handling of ring buoys requisite to inspection.

(b) *Lot size and sampling*. A lot shall consist of not more than 500 ring life buoys. A new lot shall be started with any change or modification in material used or manufacturing methods employed. When a lot of ring buoys is ready for inspection, the manufacturer shall notify the Commander of the Coast Guard District in which the factory is located, who will assign a marine inspector to the plant for the purpose of making the necessary tests and inspections. From each lot of ring life buoys the marine inspector shall select samples in accordance with the following Table 160.050-5(b) to be tested for strength and buoyancy in accordance with paragraphs (c) and (e) respectively of this section:

TABLE 160.050-5(b)—SAMPLING FOR TESTS

Lot size	Number of ring buoys in sample
100 and under	1
101 to 200	2
201 to 300	3
301 to 500	4

(c) *Strength test*. The buoy body shall be suspended by a 2-inch-wide strap. A similar strap shall be passed around the opposite side of the buoy and a 200-pound weight suspended by it from the buoy. After 30 minutes, the buoy body shall be examined, and there shall be no breaks, cracks or permanent deformation.

(d) *Resistance to damage test*. The buoy body shall be dropped three times from a height of 6 feet onto concrete, and there shall be no breaks or cracks in the body.

(e) *Buoyancy*—(1) *Buoyancy test method*. To obtain the buoyancy of the buoy, proceed as follows:

(i) Weigh iron or other weight under water. The weight shall be more than sufficient to submerge the buoy.

(ii) Attach the iron or other weight to the buoy and submerge with the top of the buoy at least 2 inches below the surface for 48 hours.

(iii) After the 48-hour submergence period, weigh the buoy with the weight attached while both are still under water.

(iv) The buoyancy is computed as subdivision (1) minus subdivision (iii) of this subparagraph.

(2) *Buoyancy required*. The buoys shall provide a buoyancy of not less than 16½ pounds for the 20- and 24-inch sizes, and not less than 32 pounds for the 30-inch size.

(f) *Lot acceptance and rejection*. When the marine inspector has satisfied himself that the ring life buoys in the lot are of a type officially approved in the name of the company, and that such ring life buoys meet the requirements of this specification, he may complete the name plate described in § 160.050-6 with the necessary information. If any ring life buoys are found unsatisfactory, they or the entire lot may be rejected at the discretion of the marine inspector. Rejected individual ring life buoys or the entire lot may be re-worked and re-submitted for inspection at the discretion of the District Commander.

§ 160.050-6 [Amended]

58. Section 160.050-6 *Marking* is amended by changing in the first sentence of paragraph (a) the word "straps" to "beackets".

§ 160.050-7 [Amended]

59. Section 160.050-7 *Procedure for approval* is amended by correcting the address in the first sentence of paragraph (a) by changing from "Washington, D.C." to "Washington, D.C., 20228", and by changing the reference in paragraph (b) from "§ 160.050-5 (b), (c), and (d)" to "§ 160.050-5 (c), (d), and (e)".

Subpart 160.051—Inflatable Liferrafts

60. The authority note for Subpart 160.051 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 160.051 interpret or apply R.S. 4488, as amended, R.S. 4491, as amended, secs. 1, 2, 42 Stat. 1544, 1545, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 481, 489, 567, 890b, 50 U.S.C. 198; E.O. 11289; Treasury Department Orders 120, July 31, 1959, 15 F.R. 6821; 167-14, Nov. 26, 1954, 19

F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

61. Section 160.051-1 is amended to read as follows:

§ 160.051-1 Applicable specifications.

(a) *Specifications*. The following specifications, of the issue in effect on the date inflatable liferafts are manufactured, form a part of this subpart for guidance purposes only:

(1) *Military specifications*:

MIL-I-19486 (Ships)—Lifeboat, CO, inflatable Mark 5, 18-person capacity.  
MIL-C-17415 (Ships)—Cloth, coated, and webbing, inflatable boat and miscellaneous use.

(b) *Copies on file*. Copies of the specifications referred to in this section, as well as the various reference specifications forming a part thereof, shall be kept on file by the manufacturer, together with the approved plans, specifications, and certificate of approval. They shall be kept for a period consisting of the duration of approval and 5 years after termination of approval, except that the approval certificate shall be returned for cancellation immediately following the termination date. The Military Specifications may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa., 19120.

62. Section 160.051-3(b) is amended to read as follows:

§ 160.051-3 Types and sizes.

(b) *Sizes*. Inflatable liferafts shall be not less than 4 (6 for vessels on international voyages) nor more than 25-person sizes. An inflatable liferaft, complete with case and required emergency equipment, shall not weigh more than 400 pounds.

63. Section 160.051-4 is amended by revising paragraphs (f), (g) and (i), and by adding a new paragraph (j), which read as follows:

§ 160.051-4 Design.

(f) *Containment*. For each type of raft, manufacturers shall design and provide suitable containment constructed so as to be capable of withstanding hard wear under conditions encountered at sea. A liferaft in its container shall be inherently buoyant and shall be arranged so as to display evidence of use or tampering, such as by the use of a suitable seal, or equivalent. The arrangement shall be such that if the vessel sinks, the raft will float free and inflation will take place automatically. The "Instructions for Inflation" requirement of § 160.051-8(b) shall consist of brief instructions for manually launching and inflating a raft. These instructions shall be legibly printed on material that is durable, water and wear resistant. These instructions shall be permanently attached to the exterior of each raft container in two locations, one on each side of the container.

(1) *Rigid container*. The container shall be constructed of metal, wood, or plastic, and shall be capable of being

securely fastened aboard ship and arranged for quick release of the liferaft. The container shall be weathertight, except that provision shall be made for drainage and the circulation of air. Rigid containers shall be the normal means of containing inflatable liferafts except for the installations provided for in subparagraph (2) of this paragraph.

(2) *Fabric container.* A fabric container shall be made of coated fabric in accordance with Military Specification MIL-C-17415. All fasteners and hardware shall be made of noncorrosive metal. Fabric containers shall be provided with carrying handles, nameplates and markings in accordance with § 160.051-8. Fabric containers may be used with liferafts that are reinforced for suspension as described in paragraph (j) of this section to operate in conjunction with certain approved launching devices.

(g) *Inflation.* Inflation shall take place upon the pulling of a lanyard or by some equally simple means which may be accomplished manually both from the deck of a vessel and by a swimmer in the water. In addition, inflation connections shall be provided for use with the hand pump of § 160.051-7(b)(9).

(i) *Capacity.* The maximum number of persons for which an inflatable liferaft may be rated shall be the overall horizontal clear area inside the raft in square feet (including thwarts if fitted) divided by 4, or the volume of the principal buoyancy compartments in cubic feet (which for this purpose shall not include the arches, canopy supports, or thwarts) divided by 3.4, whichever is the lesser.

(j) *Launching reinforcement.* Any liferaft which is to be suspended from or operated in conjunction with an approved launching device such that any of the raft's components are subjected to loads and stresses in addition to those of its inflation system or normal waterborne loading, shall be suitably reinforced with load carrying lines, slings, netting or their equivalents. These reinforcements shall be designed with a minimum factor of safety of 6 on the ultimate strength of the reinforcement based on the raft's normal carrying capacity.

64. Section 160.051-5 is amended by revising paragraphs (c) (4) and (d) and by revising in paragraph (e) the introductory paragraph and subparagraph (11) and by adding a new subparagraph (12), which read as follows:

§ 160.051-5 Inspection and tests.

(c) *Routine inspections and tests.*

(4) *Inflation test.* For lots of less than 30, one specimen shall be tested. For lots of at least 30, but not more than 50, two specimens shall be tested. The specimens shall be selected at random from the lot after the rafts have been folded and packed in their containers with equipment. When the directions on the container are followed, the specimen shall break free from its container and inflate each principle buoyancy compartment on the periphery of the raft to

the designed shape and approximate dimensions in not more than 30 seconds at 70° F. At the end of this 30 seconds interval, the canopy support tubes are not required to be fully erect. The specimen shall reach its designed working pressure with the canopy fully erect in not more than 3 minutes after the first carbon dioxide inflation valve is operated. The specimen shall be allowed to stand for 1 hour to allow the gases inside to come to room temperature. The pressure in all the principal buoyancy compartments shall be approximately the designed working pressure. If the specimen(s) fails this test the entire lot shall be subjected to the inflation test.

(d) *Lot acceptance or rejection.* When the inspections and tests prescribed by paragraphs (a), (b), and (c) of this section, above have been completed satisfactorily and all nonconforming units eliminated, and the inflatable liferafts comprising the lot are considered suitable, the lot shall be accepted, and the containers shall be marked in accordance with § 160.051-8(a).

(e) *Preapproval inspection and tests.* The prototype raft shall be inspected and tested at the plant of the manufacturer in the presence of a marine inspector in accordance with paragraph (c) (1) through (4) of this section. If the inspections and tests are satisfactory, the raft shall be repacked together with its equipment in the container with the cylinder(s) charged and the raft in all respects ready for use. The container shall be shipped prepaid to the Field Testing and Development Center, Coast Guard Yard, Baltimore, Md., 21228, for testing in accordance with subparagraphs (1) through (12) of this paragraph. The following additional material shall be forwarded at that time: Completely charged cylinder(s) (one or two depending on the number used in the raft design), 2 yards of all coated cloth used, and two seams 7 inches wide by 12 inches long made in exact accordance with the manufacturer's plans and specifications.

(11) *Temperature exposure.* The packed raft shall be exposed to a temperature of minus 22° F. or lower and to a temperature of 165° F. or higher. The raft shall remain at each temperature for not less than 24 hours and shall be inflated within 5 minutes after removal from each temperature chamber. The raft shall be allowed to return to a temperature of approximately 70° F. before being subjected to the second exposure. For the high temperature test, if carbon dioxide is used for inflation, the raft may be inflated by means of carbon dioxide cylinders which have not been exposed to the test temperatures. It shall be demonstrated that the raft will assume its designed shape with canopy erected, that there is no seam slippage, that the fabric has shown no tendency to crack or become tacky, and that the raft is in all respects ready for use.

(12) *Launching load test.* The following applies to a liferaft subject to the provisions of § 160.051-4(j) that is to operate in conjunction with a launching device approved in accordance with

Coast Guard specification 160.063. It shall be demonstrated that the raft while suspended or loaded by its launching connection(s) can sustain a distributed deadweight load of 2.2 times its normal carrying capacity for a period of one-half hour. The normal carrying capacity shall be equivalent to the number of persons allowed (165 pounds per person) together with the weight of equipment carried, plus 10 percent of the total load including the weight of the raft. The distributed deadweight load on the raft together with the raft's attachment(s) and rigging to a test fixture shall so interact as to simulate the loads and stresses that the raft will undergo when operated with an approved launching device.

65. Section 160.051-8 is amended by adding a subparagraph (1) to paragraph (c) and by revising the introductory paragraph of paragraph (e) (but not the subparagraphs thereunder) to read as follows:

§ 160.051-6 Servicing.

(c) *Service manual.*

(1) *Instruction placard.* Each manufacturer of inflatable liferafts shall provide the appropriate number of instruction placards to the master or operator of the vessel on which his particular inflatable liferafts are carried. The instruction placard shall include simple instructions and illustrations showing the operations of launching and inflating the inflatable liferaft, which shall be submitted for approval to the Commandant with the other items required by § 160.051-9(a). In size, such placard shall not be greater than 14 inches by 20 inches.

(e) *Inspection.* The assignment of a marine inspector to witness the inspections and testing shall be scheduled with the Officer in Charge, Marine Inspection, at least 24 hours in advance. The marine inspector shall witness the servicing of each inflatable liferaft and conduct a working pressure leakage test as outlined in § 160.051-5(c)(3), except that the waiting period may be 2 hours in lieu of 6 hours. Each inflatable liferaft, subject to § 160.051-4(j), having a suspension system which is integral with the liferaft and is intended to be used in launching operations shall be proof tested by a suspension test of 1.1 times the normal carrying capacity as specified in § 160.051-5(e)(12). All equipment shall be inspected for condition and outdated water, signals, etc., shall be replaced. Inflation cylinders shall be weighed and recharged if the weight loss exceeds 5 percent of the weight of the charge. After the raft has been satisfactorily serviced and repacked the container shall be sealed as required by § 160.051-4(f) and with waterproof ink the container will be stamped "Passed" together with the date, the port, and the marine inspector's initials. The following additional conditions apply:

66. Section 160.051-7 is amended by revising in paragraph (b) subparagraphs (2), (3), and (6); by revising in para-

graph (c) subparagraphs (1), (3), (4), (5), (8), and (10) and by adding new subparagraphs (11) through (15); and by revising in paragraph (d) subparagraphs (2) and (4), which read as follows:

§ 160.051-7 Equipment.

(b) *Items required for all rafts.* \* \* \*

(2) *Heaving line.* A buoyant heaving line not less than 100 feet in length and having a breaking strength of not less than 250 pounds fitted with a buoyant quoit at one end with the other end attached to the raft near the after entrance.

(3) *Instruction manual.* An instruction manual printed on water resistant paper and stowed in a pocket inside the raft shall describe the raft and its equipment, use of the inflation pump, repair kit, sea anchor, etc., and contain survival information, and an illustrated table of lifesaving signals from form CG-811 (Rev.).

(6) *Lifelines.* Two lifelines of not less than  $\frac{3}{16}$  inch nylon tubular webbing, or equivalent, shall be fitted: one around the outside periphery and the other around the inside of the raft. The outside lifeline shall be festooned in bights, not more than 24 inches long and fastened at intervals not exceeding 18 inches, which shall hang within 3 inches of the waterline when the raft is fully loaded.

(c) *Ocean service equipment.* \* \* \*

(1) *Ball(s).* Ball(s) shall be of flexible material not less than 6 inches in diameter, one of which shall be provided on rafts accommodating 12 persons or less, and two on rafts accommodating 13 persons or more.

(3) *First-aid kit.* An approved first-aid kit in accordance with Subpart 160.054 of this Subchapter Q (Specifications).

(4) *Flashlight.* An approved type I, size No. 3 flashlight constructed in accordance with Subpart 161.008 of this Subchapter Q (Specifications). Three spare cells (or one 3-cell battery) and two spare bulbs in a waterproof container shall be provided with each flashlight. Batteries shall be replaced at each servicing of the liferaft.

(5) *Mirror, signaling.* One signaling mirror of an approved type.

(8) *Signals.* Two hand-held rocket-propelled parachute red flare distress signals constructed in accordance with Subpart 160.036 of this Subchapter Q (Specifications), and six hand red flare distress signals constructed in accordance with Subpart 160.021 or Subpart 160.023 of this Subchapter Q (Specifications).

(10) *Water.* One and one-half quarts of drinking water per person in approved hermetically sealed containers constructed and filled in accordance with Subpart 160.026 of this Subchapter Q (Specifications). Service life of this equipment shall be limited to 5 years

from date of packing. One pint of this requirement per person may be replaced by desalting kit(s) approved in accordance with Subpart 160.058 of this Subchapter Q (Specifications), that shall be capable of producing an equal amount of fresh water.

(11) *Jackknife.* On rafts accommodating 13 persons or more, an approved jackknife shall be provided in addition to that required by paragraph (b) (4) of this section.

(12) *Signal whistle.* One signal whistle of the ball type, made of corrosion-resistant construction, with a 36-inch lanyard attached, and in good working order.

(13) *Can openers.* Three means of opening hermetically sealed containers shall be provided. Special blade(s) on the approved jackknives are accepted in this accounting in addition to any can opener(s) the blades or cutting edges of which shall be sheathed to prevent damage to the raft and its equipment.

(14) *Fishing tackle.* One emergency fishing tackle kit in accordance with Subpart 160.061 of this Subchapter Q (Specifications).

(15) *Antiseasickness tablets.* Six antiseasickness medicinal tablets for each person the raft is rated to carry.

(d) *Limited service equipment.* \* \* \*

(2) *Flashlight.* An approved type I, size 3 flashlight constructed in accordance with Subpart 161.008 of this Subchapter Q (Specifications). Three spare cells (or one 3-cell battery) and two spare bulbs in a waterproof container shall be provided with each flashlight. Batteries shall be replaced at each servicing of the liferaft.

(4) *Signals.* One hand-held rocket-propelled parachute red flare distress signal constructed in accordance with Subpart 160.036 of this Subchapter Q (Specifications), and two hand red flare distress signals or two hand combination flare and smoke distress signals constructed in accordance with Subpart 160.021 or Subpart 160.023 of this Subchapter Q (Specifications).

67. Section 160.051-8(a) is amended to read as follows:

§ 160.051-8 Nameplate and marking.

(a) *Nameplate.* Each inflatable liferaft container shall have permanently attached a substantial nameplate of compatible material on which is embossed or imprinted the name of the manufacturer's model number and serial number, the number of persons for which the inflatable liferaft is approved, and the lot number. In addition, the container shall be marked "Ocean Service Equipment" or "Limited Service Equipment" as applicable, together with the marine inspector's initials, the date, and the letters "USCG".

Subpart 160.053—Work Vests, Unicellular Plastic Foam

68. The authority note for Subpart 160.053 is amended to read as follows:

AUTHORITY NOTE: The provisions of this Subpart 160.053 interpret or apply R.S. 4417,

as amended, 4417a, as amended, 4418, as amended, 4426, as amended, 4433, as amended, 4483, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 3, 54 Stat. 347, sec. 3, 70 Stat. 152, sec. 4, 67 Stat. 462, sec. 3, 68 Stat. 675; 48 U.S.C. 391, 391a, 392, 404, 435, 481, 489, 507, 526p, 1333, 390b, 43 U.S.C. 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-15, Jan. 3, 1955, 20 F.R. 820; CGFR 56-26, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

Subpart 160.054—Kits, First-Aid, for Inflatable Liferafts

69. The authority note for Subpart 160.054 is amended to read as follows:

AUTHORITY NOTE: The provisions of this Subpart 160.054 interpret or apply R.S. 4417a, as amended, 4483, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, sec. 3, 70 Stat. 152, sec. 4, 67 Stat. 462, and sec. 3, 68 Stat. 675; 48 U.S.C. 391a, 481, 489, 507, 1333, 390b, 43 U.S.C. 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

Subpart 160.055—Life Preservers, Unicellular Plastic Foam, Adult and Child, for Merchant Vessels

70. The authority note for Subpart 160.055 is amended to read as follows:

AUTHORITY NOTE: The provisions of this Subpart 160.055 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4483, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, as amended, sec. 6, 17, 54 Stat. 164, as amended, 166, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 4, 67 Stat. 462, and sec. 3, 68 Stat. 675; 48 U.S.C. 391a, 404, 481, 489, 507, 526c, 526p, 1333, 390b, 43 U.S.C. 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-15, Jan. 3, 1955, 20 F.R. 820; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

Subpart 160.056—Rescue Boat

71. The authority note for Subpart 160.056 is amended to read as follows:

AUTHORITY NOTE: The provisions of this Subpart 160.056 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4483, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 152, sec. 3, 68 Stat. 675; 48 U.S.C. 391a, 404, 481, 489, 397, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

72. Section 160.056-7 is amended by adding a new paragraph (f) reading as follows:

§ 160.056-7 Procedure for approval.

(f) If a rescue boat is required on short notice, a boat may be approved on an individual basis: *Provided*, That the requirements in this subpart are met to the satisfaction of the Officer in Charge, Marine Inspection. Sketches of the boat showing alterations may be submitted in lieu of the manufacturer's general arrangement and construction plan. Un-

der these circumstances, the letter indicating that approval of the rescue boat has been granted shall be issued to the vessel using the boat.

73. Part 160 is amended by inserting after § 160.056-7 a new Subpart 160.057, consisting of §§ 160.057-1 to 160.057-6, inclusive, reading as follows:

**Subpart 160.057—Signals, Distress, Floating Orange Smoke (15 Minutes), for Merchant Vessels**

- Sec. 160.057-1 Applicable specifications.
- 160.057-2 Type.
- 160.057-3 Materials, workmanship, construction and performance requirements.
- 160.057-4 Sampling, inspections, conditioning, and tests.
- 160.057-5 Marking.
- 160.057-6 Procedure for approval.

**AUTHORITY NOTE:** The provisions of this Subpart 160.057 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 1833, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 5521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4694; 167-33, Oct. 26, 1959, 24 F.R. 8857.

**§ 160.057-1 Applicable specifications.**

(a) *Specifications.* There are no other specifications applicable to this subpart.

(b) *Copies on file.* Copies of the approved plans and certificate of approval shall be kept on file by the manufacturer.

**§ 160.057-2 Type.**

(a) *Floating orange smoke distress signals* specified by this subpart shall be of one type which shall consist essentially of an outer container, ballast, an air chamber, an inner container, the smoke producing composition, and an igniter mechanism. Alternate arrangements which conform to the performance requirements of this specification will be given special consideration.

**§ 160.057-3 Materials, workmanship, construction, and performance requirements.**

(a) *Materials.* The materials shall conform strictly to the specifications and drawings submitted by the manufacturer and approved by the Commandant. Metal for containers shall be not less than 0.020 inch in thickness. Igniter pull wires shall be of corrosion-resistant metal. The combustible material shall be of such nature that it will not deteriorate during long storage, nor when subjected to frigid or tropical climates, or both.

(b) *Workmanship.* Floating orange smoke distress signals shall be of first class workmanship and shall be free from imperfections of manufacture affecting their appearance or that may affect their serviceability.

(c) *Construction.* The outer container shall be cylindrical and not more than 15 inches in length by 11 inches diameter. All sheet metal seams should be hook jointed and soldered. The whole container shall be covered with two coats of gray waterproof paint. The igniter

mechanism shall operate and provide ignition of the signal automatically when the ring life buoy to which it is attached is thrown overboard.

(d) *Performance.* Signals shall meet all the inspection and test requirements contained in § 160.057-4.

**§ 160.057-4 Sampling, inspections, conditioning, and tests.**

(a) *Classification of tests.* The methods of sampling, inspections and tests conducted upon floating orange smoke distress signals shall be considered as falling within one of the following general classifications:

- (1) *Qualification (type or brand approval) tests;*
- (2) *Production check tests (at the place of manufacture); and,*
- (3) *Production check tests (at a Government laboratory).*

(b) *Qualification (type or brand approval) tests.* Pre-approval samples, selected in accordance with § 160.057-6(c), shall be tested in accordance with the testing schedules indicated by subparagraphs (1) and (2) of this paragraph to determine qualification for type or brand approval. The cost of the tests shall be borne by the manufacturer.

(1) *Operational tests.* (i) Subject 4 specimens to water resistance conditioning, paragraph (d) of this section, following which subject them to tests as indicated by Table 160.057-4(b) (1) (i).

TABLE 160.057-4(b) (1) (i)

Letter identification	Number of specimens	Kind of tests	Paragraph references
a.....	3	Ignition and smoke emitting time.	160.057-4 (e) and (f).
b.....	1	Underwater smoke emission.	160.057-4(g).

(ii) The magnitude of the failures in these tests shall be determined as indicated by Table 160.057-4(b) (1) (ii). In the case of concurrent or simultaneous defects, penalties will not be applied cumulatively, but only for the greatest defect.

TABLE 160.057-4(b) (1) (ii)

Letter identification	Kind of defects	Failure factor
a.....	Failure to ignite.	100
b.....	Ignites in air and emits smoke under water less than 50 percent of specified time.	100
c.....	Ignites in air and emits smoke under water at least 50 percent but less than 100 percent of specified time.	50
d.....	Ignites or burns dangerously.	100
e.....	Nonuniform smoke emitting rate.	50
f.....	Smoke-emitting time less than 70 percent of specified time.	100
g.....	Smoke-emitting time at least 70 percent but less than 80 percent of specified time.	75
h.....	Smoke-emitting time at least 80 percent but less than 90 percent of specified time.	50
i.....	Smoke-emitting time at least 90 percent but less than 100 percent of specified time.	25

(iii) The average percentage of failure is computed as the sum of the failure factor divided by the number of specimens tested. The average percentage of failure shall not exceed 15 percent.

(2) *Technical tests.* (i) Subject four specimens to tests as indicated by Table 160.057-4(b) (2) (i).

TABLE 160.057-4(b) (2) (i)

Letter identification	Number of specimens	Kind of tests	Paragraph references
a.....	1	Elevated temperature, humidity, and storage.	160.057-4(b).
b.....	1	Susceptibility to explosion and corrosion.	160.057-4(i) and (j).
c.....	1	Volume and density.	160.057-4(i).
d.....	1	Color.	160.057-4(k).

(ii) No deviations from the requirements are permitted for these tests.

(c) *Sampling, inspections, and tests of signals from production lots.* The production of floating orange smoke distress signals produced under an official type or brand approval shall be checked for compliance with this specification in the manner set forth below:

(1) *Lot size and sampling procedure.* For purposes of sampling the production of floating orange smoke distress signals, a lot shall consist of not more than 500 signals. A new lot shall be started with any change or modification in raw materials or manufacturing methods. Lots shall be numbered serially by the manufacturer, and the lot number shall be plainly and indelibly marked on the outer container of each signal in the lot. A marine inspector shall select at random from each lot a sample consisting of four specimen signals for inspection, conditioning, and testing at the place of manufacture.

(2) *Inspections (at the place of manufacture).* The marine inspector shall be admitted to the place of manufacture and shall familiarize himself with the various operations involved in the manufacturing process and, from observation during manufacture, satisfy himself that floating orange smoke distress signals are being made in general accordance with this subpart and of materials and parts conforming strictly to the specifications and drawings submitted by the manufacturer and approved by the Commandant. Specimens or samplings of materials entering into construction may be taken at random, either in the raw material state or during manufacture, by the marine inspector and tests made for compliance with the applicable requirements. The test specimens comprising the sample, selected in accordance with subparagraph (1) of this paragraph, shall be examined by the marine inspector for surface defects.

(3) *Production check tests (at the place of manufacture).* (i) The manufacturer shall provide a suitable place and the necessary apparatus for the use of the marine inspector in conducting such production check tests as are done at the place of manufacture. Samples from production lots, selected in accordance with subparagraph (1) of this paragraph, shall be tested at the place of manufacture in accordance with the following testing schedule: Subject four specimen signals to water resistance conditioning, paragraph (d) of this section,

## RULES AND REGULATIONS

following which subject them to tests as indicated by Table 160.057-4(c)(3)(1).

TABLE 160.057-4(c)(3)(1)

Letter identification	Number of specimens	Kind of tests	Paragraph references
a.....	3	Ignition and smoke emitting characteristics, and smoke emitting time.	160.057-4 (e) and (f).
b.....	1	Underwater smoke emission.	160.057-4(g).

(1) The computation of the average percentage of failure shall be in accordance with paragraph (b)(1) of this section. Any unusual discrepancies shall be considered cause for obtaining an additional sample consisting of 8 specimen signals for tests at a Government laboratory as provided in subparagraph (4) of this paragraph.

(4) *Production check tests (at a Government laboratory).* Tests at a Government laboratory shall be made on not less than 1 sample from each 10 production lots of signals, or not less than once in each year, whichever occurs more frequently. Sampling and inspection shall be made at the place of manufacture as provided by subparagraphs (1) and (2) of this paragraph, except that the sample shall consist of 8 specimen signals and shall be in addition to the specimen signals which are tested at the place of manufacture. The sample shall be forwarded prepaid by the manufacturer to the Commandant. Tests at the Government laboratory shall be conducted in accordance with paragraph (b)(1) and (2) of this section. Failure to meet the requirements shall be cause for discontinuing further production check tests at the place of manufacture until retests of new samples at a Government laboratory show correction of the deficiency found.

(d) *Conditioning of test specimens—water-resistance.* Immerse specimen horizontally with uppermost portion of the signal approximately 1 inch below the surface of the water for a period of 24 hours. The test specimen shall function properly after this conditioning.

(e) *Ignition and smoke emitting characteristics.* Test specimens shall ignite and emit smoke properly when the directions on the signal are followed. Test specimens shall not ignite explosively in a manner that might be dangerous to the user or persons close by. Test specimens shall emit smoke at a uniform rate while floating in smooth water, and should float in such a manner that the rate of discharge will be constant while the signal is floating in rough water. Signals should be so constructed that moderately heavy seas likely to be encountered at sea will not cause the signal to become inoperable.

(f) *Smoke emitting time.* Ignite specimen according to the directions printed on the signal and place signal in tub or barrel of water. The smoke emitting time of a specimen shall be obtained by stop watch measurements from the time of positive smoke emission until

it ceases. There shall be no flame emission during the entire smoke emitting time of the signal. The smoke emitting time for a specimen shall be not less than 15 minutes. When conducting qualification or production check tests at a Government laboratory, this test shall be conducted with approximately  $\frac{1}{4}$  inch of gasoline covering the water in the tub or barrel. The gasoline vapors shall not ignite during the entire smoke emitting time of the signal.

(g) *Underwater smoke emission.* Ignite specimen and let it burn about 15 seconds in air. Submerge the burning signal in water in a vertical position with head down. Obtain underwater smoke emission time by stop watch measurements from time of submersion until positive smoke emission ceases. The test specimen shall emit smoke under water not less than 30 seconds when subjected to this test.

(h) *Elevated temperature, humidity, and storage.* Place specimen in a thermostatically controlled even temperature oven held at 90° C. with not less than 90 percent relative humidity for 72 hours. Remove specimens and store at room temperature (20° to 25° C.) with approximately 65 percent relative humidity for 10 days. If for any reason it is not possible to operate the oven continuously for the 72-hour period, it may be operated at the required temperature and humidity for 8 hours out of each 24 during the 72-hour conditioning period. (Total of 24 hours on and 48 hours off.) The signal shall not ignite or decompose during this conditioning. The signal shall ignite and operate satisfactorily following this conditioning.

(i) *Susceptibility to explosion.* Remove smoke composition from signal and punch a hole in the composition. Insert a No. 6 commercial blasting cap. Ignite the cap. The test specimen shall not explode or ignite.

(j) *Corrosion-resistance.* Expose the complete specimen with cover secured hand-tight to a finely divided spray of 20 percent by weight sodium chloride solution at a temperature of 90° to 100° F. for 100 hours. The container and cap shall show good resistance.

(k) *Color of smoke.* Ignite specimen in the open air in daytime according to the directions printed on the signal, and determine the Munsell notation of the smoke color by direct visual comparison of the unshadowed portions of the smoke with the charts of the Munsell book of color held so as to receive the same daylight illumination as the unshadowed portions of the smoke. The smoke shall be orange, i.e., its Munsell notation shall show a hue between 8R and 5 YR, a value greater than 4.5, and a chroma greater than 9.0.

(l) *Volume and density of smoke.* Test specimens shall show less than 70 percent transmission for not less than 12 minutes when measured with apparatus having a light path of 7½ inches, an optical system aperture of 3.7 degrees, and an entrance air flow of 650 cubic feet per minute, such apparatus to be as de-

scribed in National Bureau of Standards Report No. 4792 dated July 1954.

(m) *Lot acceptance or rejection.* When the marine inspector has satisfied himself that the floating orange smoke distress signals in the lot are of a type officially approved in the name of the manufacturer and meet the requirements set forth in this subpart, each of the smallest packing cartons or boxes in which the signals are sealed prior to shipment, shall be plainly marked with the words: "Inspected and Passed, (date), (port), Inspector's initials, U.S.C.G." A lot shall be rejected when the average percentage of failure, as computed by the table shown in paragraph (b)(1) of this section exceeds 15 percent. When notice is received by the marine inspector that specimen signals have failed to meet the requirements of the production check tests at a Government laboratory, further production check tests at the place of manufacture shall be discontinued until retests of adjusted samples show correction of the deficiency found. Signals from rejected lots may, when permitted by the marine inspector, be reworked by the manufacturer to correct the deficiency for which they were rejected and be resubmitted for official inspection. Signals from rejected lots may not, unless subsequently accepted, be sold or offered for sale under representation as being in compliance with this specification or as being approved for use on merchant vessels.

## § 160.057-5 Marking.

(a) *Directions for use.* Each floating orange smoke distress signal shall be plainly and indelibly marked in black lettering not less than  $\frac{3}{16}$  inch high with the word "Directions". Immediately below shall be similarly marked in black lettering not less than  $\frac{1}{8}$  inch high in numbered paragraphs, and in simple and easily understood wording, instructions to be followed to make the device operative. Pasted-on-labels are not acceptable.

(b) *Other marking.* There shall be embossed or die-stamped, in the outer container in figures not less than  $\frac{1}{16}$  inch high, numbers indicating the month and year of manufacture, thus: "6-64" indicating June 1964. The outer container shall also be plainly and indelibly marked with the commercial designation of the signal, the words "Floating Orange Smoke Distress Signal (15 Minutes)", name and address of the manufacturer, the Coast Guard Approval No., the month and year of manufacture and the lot number. In addition to any other marking placed on the smallest packing carton or box containing floating orange smoke distress signals, such cartons or boxes shall be plainly and indelibly marked to show the month and year of manufacture and the lot number.

## § 160.057-6 Procedure for approval.

(a) *General.* Floating orange smoke distress signals for use on merchant vessels are approved only by the Comman-

dant (MMT), U.S. Coast Guard, Washington, D.C., 20226. Correspondence pertaining to the subject matter of this specification shall be addressed to the Commander of the Coast Guard District in which the factory is located.

(b) *Manufacturer's plans and specifications.* In order to obtain approval, submit detailed plans and specifications including a complete bill of material, assembly drawing, and part drawings descriptive of the arrangement and construction of the signal, to the Commander of the Coast Guard District in which the factory is located. Each drawing shall have an identifying drawing number, date, and an identification of the signal; and the general arrangement or assembly drawing shall include a list of all drawings applicable, together with drawing numbers and alteration numbers. The alterations shall be noted with the date of alteration or new drawing numbers and dates shall be assigned. At the time of selection of the pre-approval sample, the manufacturer shall furnish to the marine inspector 4 copies of all plans and specifications, corrected as may be required, for forwarding to the Commandant.

(c) *Pre-approval sample.* After the first drawings and specifications have been examined and found to appear satisfactory, the manufacturer will be advised as to any corrections or additions which are necessary. A marine inspector then will be detailed to the factory to observe the production facilities and manufacturing methods and to select at random from not less than 30 signals already manufactured, a sample of not less than 8 specimens which will be forwarded prepaid by the manufacturer to the Commandant for the necessary conditioning and tests in accordance with the schedule outlined in § 160.057-4(b) to determine compliance with this subpart for qualification for type or brand approval for use on merchant vessels. Costs of these tests of the pre-approval sample shall be borne by the manufacturer.

74. Part 160 is amended by inserting after § 160.057-6 a new Subpart 160.058, consisting of §§ 160.058-1 to 160.058-6, inclusive, reading as follows:

**Subpart 160.058—Desalter Kits, Sea Water, for Merchant Vessels**

- Sec. 160.058-1 Applicable specification.
- 160.058-2 Type.
- 160.058-3 Materials, workmanship, construction and performance requirements.
- 160.058-4 Inspections.
- 160.058-5 Labeling and marking.
- 160.058-6 Procedure for approval.

**AUTHORITY NOTE:** The provisions of this Subpart 160.058 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 395, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954,

19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**§ 160.058-1 Applicable specification.**

(a) *Specification.* The following specification, of the issue in effect on the date the desalter kits are manufactured, forms a part of this subpart:

(1) *Military specification.* MIL-D-5531D—Desalter Kit, Sea Water, Mark 2.

(b) *Copies on file.* A copy of the specification referred to in this section shall be kept on file by the manufacturer, together with the approved plans and certificate of approval. The Military Specification may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa., 19120.

**§ 160.058-2 Type.**

(a) Desalter kits specified by this subpart shall be of the type described in the specification listed in § 160.058-1(a)(1).

**§ 160.058-3 Materials, workmanship, construction and performance requirements.**

(a) The materials, construction, workmanship, general and detail requirements shall conform to the requirements of the specification listed in § 160.058-1(a)(1), except as otherwise specifically provided by this subpart.

**§ 160.058-4 Inspections.**

(a) Desalter kits specified by this subpart are not inspected at regularly scheduled factory inspections; however, the Commander of the Coast Guard District in which the desalter kits are manufactured may detail a marine inspector at any time to visit places where desalter kits are manufactured to check materials and construction methods and to satisfy himself that the desalter kits are being manufactured in compliance with the requirements of the specification listed in § 160.058-1(a)(1) as modified by this specification and are suitable for the intended purpose. The manufacturer shall admit the marine inspector to his plant and shall provide a suitable place and the necessary apparatus for the use of the marine inspector in conducting tests at the place of manufacture.

**§ 160.058-5 Labeling and marking.**

(a) In addition to the marking and instructions required by the specification listed in § 160.058-1(a)(1), the Coast Guard approval number shall be included. The contract number may be omitted.

**§ 160.058-6 Procedure for approval.**

(a) *General.* Desalter kits for use in lifeboats or liferafts on merchant vessels are approved only by the Commandant, U.S. Coast Guard, Washington, D.C., 20226. Correspondence pertaining to the subject matter of this specification shall be addressed to the Commander of the Coast Guard District in which the factory is located.

(b) *Manufacturer's plans and specifications.* In order to obtain approval, submit two samples and four copies of

detailed plans, specifications and a bill of material to the Commander of the Coast Guard District in which the kits are manufactured. Prior to any action by the Coast Guard it will be required that the desalter kit under consideration, either be listed on the Qualified Products List of Products Qualified Under the Military Specification listed in § 160.058-1(a)(1), or the manufacturer of such kits shall prove by report from the Bureau of Ships, U.S. Navy, or a recognized testing laboratory that the desalter kit does in fact comply with the specification listed in § 160.058-1(a)(1).

75. Part 160 is amended by inserting after § 160.060-9 a new Subpart 160.061 consisting of §§ 160.061-1 to 160.061-7, inclusive, reading as follows:

**Subpart 160.061—Fishing Tackle Kits, Emergency, for Merchant Vessels**

- Sec. 160.061-1 Applicable specifications.
- 160.061-2 Requirements.
- 160.061-3 Design and construction.
- 160.061-4 Kit assembly.
- 160.061-5 Marking.
- 160.061-6 Inspection and test.
- 160.061-7 Procedure for approval.

**AUTHORITY NOTE:** The provisions of this Subpart 160.061 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4488, as amended, 4491, as amended, sec. 10, 35 Stat. 428, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 395, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

**§ 160.061-1 Applicable specifications.**

(a) The following specifications, of the issue in effect on the date emergency fishing tackle kits are manufactured, form a part of this subpart:

- (1) *Federal specifications:*
  - QQ-I-706—Iron and steel; sheet, tinned (tin plate).
  - QQ-W-423—Wire, steel, corrosion-resisting.
  - HH-P-91—Packing, fiber, hard sheet.
  - CCC-F-451—Flannel, cotton.

(2) *Military specifications:*

- MIL-H-2846—Hooks, fish, steel.
- MIL-B-1418—Blades, razor, safety.
- MIL-A-140—Adhesive, water-resistant, W.P. barrier-material.

(b) Copies of the specifications referred to in this section shall be kept on file by the manufacturer, together with the approved plans, if any, and the certificate of approval.

(1) The Federal Specifications may be purchased from the Business Service Center, General Services Administration, Washington, D.C., 20407.

(2) The Military Specifications may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa., 19120.

**§ 160.061-2 Requirements.**

(a) *Material.* Material shall be as specified in this subpart.

(b) *Assembly.* Emergency fishing kits shall consist of fishing rigs, accessories, and instructions furnished in a hermetically sealed container.

(c) *Components.* Each fishing kit shall consist of the items listed in table 160.061-2(c).

TABLE 160.061-2(c)—Fishing Kits

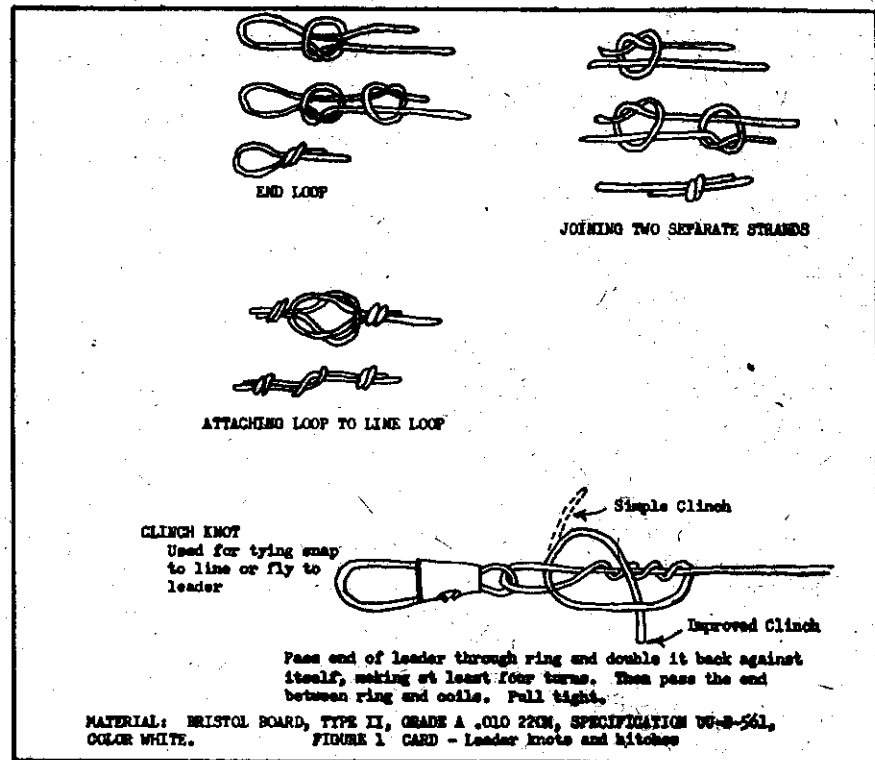
Item No.	Description <sup>1</sup>	Quantity
1.....	Booklet, Fishing Instructions (Refer to § 160.061-3(i)).	1 each.
2.....	Container, Fishing Kit (See Fig. 2).	1 each.
3.....	Hooks, treble, size 1, short shank.	2 each.
4.....	Hooks, size 7/0, 5/0, 1/0, 2, 6, 8, O'Shaughnessy, straight shank, double strength.	2 each.
5.....	Leader, wire, 0.011-inch diameter, 27-pound test (with No. 3 snap on one end and No. 7 swivel on the other end) 6-inch length.	2 each.
6.....	Leader, wire, 0.016-inch diameter, 58-pound test (with No. 3 snap on one end and No. 4 swivel on the other end) 12-inch length.	2 each.
7.....	Leader, monofilament, 0.021-inch diameter, 18-pound test, 4-foot length.	4 each.
8.....	Line, monofilament, 18-pound test 100-foot length.	1 each.
9.....	Line, nylon or dacron, braided, 68-pound test, 150 feet length.	1 each.
10.....	Pad, canton flannel, 2½ inches square, specification CCC-F-451, color, bright yellow.	1 each.
11.....	Pad, canton flannel, 2½ inches square, specification CCC-F-451, color, bright red.	1 each.
12.....	Lure, spoon, removable No. 6 hook, yellow feathers, blade length 1¾ inches, width 1½ inches, weight ¼ ounce, polished copper finish.	1 each.
13.....	Lure, spoon, removable No. 5/0 hook, yellow feathers, blade length 3 inches, width ½ inch, weight ¼ ounce, polished chrome finish.	1 each.
14.....	Lure, spoon, free swinging No. 1 treble double strength, short shank, blade length 2¾ inches, width ¼ inch, weight ¼ ounce, stainless steel or chrome plated brass.	1 each.
15.....	Sinkers, pinch on or equal, ¼ ounce, ¾ ounce, 1 ounce.	1 each.
16.....	Foil, shiny, 4 inches square.	1 each.
17.....	Squid, tinned body, length 2 inches, weight ½ ounce.	1 each.
18.....	Jig, painted lead head, bucktail feathered with 1/0 hook.	1 each.
19.....	Jig, painted lead head, bucktail feathered with 3/0 hook.	1 each.
20.....	Blades, razor, safety, single edge.	1 each.
21.....	Bait, pork rind, 4 inches long, ½ inch wide, with ends tapered to ¼ inch wide and rounded.	4 each.
22.....	Snap and swivels, No. 3.	6 each.
23.....	Card, leader knots and hitches (fig. 1).	1 each.
24.....	Winder (see § 160.061-3(h)).	2 each.

<sup>1</sup> The tolerances of these items shall be plus or minus ¼-inch on all dimensions.

### § 160.061-3 Design and construction.

(a) *Container.* The container shall be made of ethyl cellulose, clear, type EM-1, Specification MIL-P-3412 or better. The dimensions shall not exceed those specified in Figure 2. Other packaging arrangements acceptable to the Commandant will be considered.

(b) *Card.* A card showing leader knots and hitches shall be provided as per Figure 1. Size of card should not exceed 2¾ by 4¾ inches.



(c) *Hooks.* Unless otherwise specified, all hooks shall be of forged steel, hollow ground with filed out points. The hooks shall be of ringed type and shall be tinned. Hooks shall be tempered, tough, flexible, and resilient.

(d) *Leaders.* Wire leaders shall be of stainless steel, and shall be attached to snaps and swivels with not less than six turns of wire. Monofilament leaders shall be blue mist and shall be provided with a ¼-inch inside diameter end loop on one end.

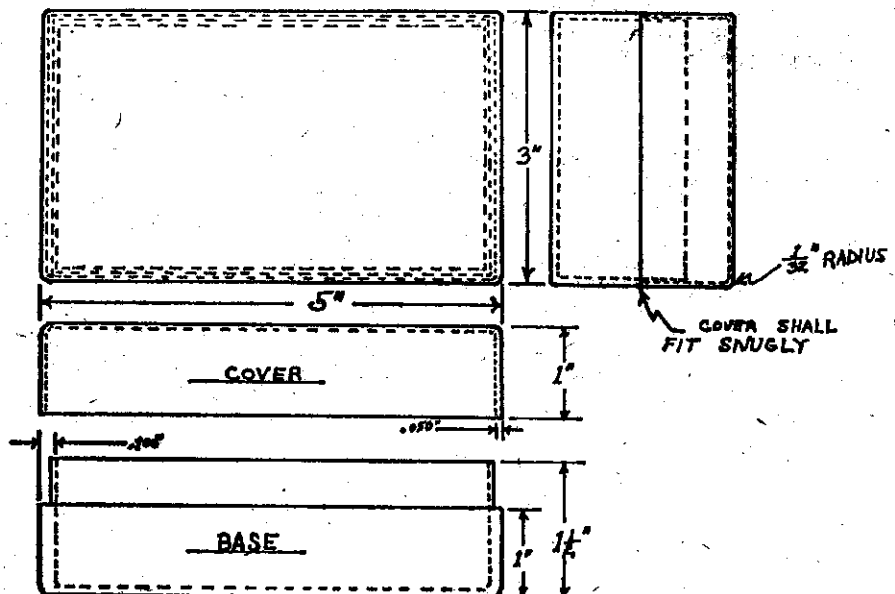


FIGURE 2.

(e) *Snaps and swivels.* Swivels shall be either of brass or bronze. Snaps shall be stainless steel.

(f) *Lines.* Unless otherwise specified, nylon lines shall be hard braided, water-proofed, and heat set to reduce "stretch". Lines may be either camouflage or mist in color.

(g) *Spoons.* Spoons shall be of the single-blade, egg-shaped dished type with either fixed or free-swinging hooks. The spoons shall be stainless steel or stamped from brass and plated to resist corrosion. Each spoon shall, on the forward end, be provided with an eye for attachment to the line. Spoons having free-swinging hooks shall have the hooks attached by means of a split ring through a hole in the rear of the blade. In fixed-hook spoons, the hook shall be attached to the spoon by a screw and shall be shaped to conform to the contour of the spoon. Feathers, if provided, shall be yellow hackle feathers attached to the hook by wrapping with thread, and the wrapping coated with red lacquer.

(h) *Winder.* Winders shall conform to Figure 3, or shall be of an equivalent commercial design suitable to contain required length of line.

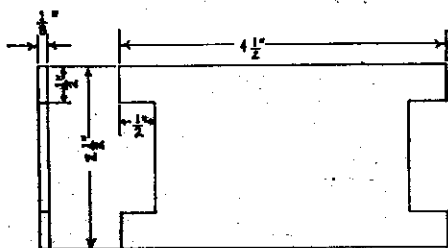


Figure 3—Winder. Material: Packing; fiber, hard sheet, Specification HH-P-91; dimensions in inches: Unless otherwise specified; tolerances: Fractions plus or minus 1/32 inch.

(i) *Booklet of instructions.* The fishing instructions shall be prepared in pamphlet form, approximately 2 1/2 inches by 4 1/2 inches on parchment paper, in waterproof ink, with printing on one side of the paper only. The booklet shall contain a complete description of how and under what conditions each component should be used, and general suggestions for fishing. It shall be prepared in easy to read form in such a manner that a completely inexperienced person will know what equipment to use and how to use it. Both physical form and the contents of the booklet shall be specially approved by the Commandant, U.S. Coast Guard, prior to acceptance. A copy of approved contents for the instruction booklet will be furnished on request.

§ 160.061-4 Kit assembly.

(a) *Preparation of items.* The items shall be prepared for packing into the kit as indicated below. Each transparent envelope shall be closed by heat sealing.

Item No.	Preparation for assembly
1, 10, 11, 12, 13, 14, 15, 16, 17, 23, 24.	None.
3, 4, 5, 6, 7, 18, 19, 21, 22.	Insert in a transparent envelope.
8 and 9	Gather into a hank 4 1/2 inches long and restrain with tape.
20	Wrap in paper envelope.

(b) *Packing of items.* The components of the kit, after being prepared as specified, shall be packed in the container in such manner that there is a minimum possibility of any item being bent or crushed. The marking label shall be placed on the bottom of the container with the wording facing out. The instruction booklet shall be packed, front cover up, under the lid. The container shall be sealed after the components have been packaged therein with an 18-inch length of 3/4-inch wide adhesive tape conforming to Specification JAN-P-127. The tape shall be applied around the perimeter of the container with an equal amount on each side of the juncture of the two sections of the container. An alternate packaging arrangement acceptable to the Commandant will be acceptable.

§ 160.061-5 Marking.

(a) *General.* The containers shall be stencilled on the bottom in black with the manufacturer's name or trademark and type or model number in letters approximately 3/16 inch high, together with the following legend in letters 3/16 inch high:

UNITED STATES COAST GUARD  
 APPROVAL NO. 160.061/—  
 EMERGENCY FISHING TACKLE KIT  
 OPEN ONLY FOR ACTUAL EMERGENCY USE  
 NOT FOR INSPECTION

§ 160.061-6 Inspection and test.

(a) *General.* Fishing tackle kits specified by this subpart are not inspected at regularly scheduled factory inspections; however, the Commander of the Coast Guard District in which the fishing tackle kits are manufactured may detail a marine inspector at any time to visit places where fishing kits are manufactured to check materials and construction methods and to conduct such tests and examinations as may be required to satisfy himself that the fishing tackle kits are being manufactured in compliance with the requirements of this specification and are suitable for the intended purpose. The manufacturer shall admit the marine inspector to his plant and shall provide a suitable place and the necessary apparatus for the use of the inspector in conducting tests at the place of manufacture.

§ 160.061-7 Procedure for approval.

(a) *General.* Fishing kits for use in lifeboats, liferafts, etc., aboard merchant vessels are approved only by the Commandant, U.S. Coast Guard, Washington, D.C., 20226. Correspondence relating to the subject matter of this specifi-

cation shall be addressed to the Commander of the Coast Guard District in which the factory is located.

(b) *Pre-approval sample and plans.* Manufacturers who desire to manufacture approved fishing kits shall submit to the Commander of the Coast Guard District in which the factory is located, two sample fishing kits, together with 4 sets of drawings showing all items, instructions, markings, etc. The Commander of the Coast Guard District will forward the sample fishing kits and the drawings to the Commandant to determine compliance with this subpart and suitability of the fishing tackle kit for type approval for use in lifeboats and liferafts on merchant vessels.

PART 161—ELECTRICAL ENGINEERING

1. The authority for Part 161 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 161 issued under R.S. 4406, as amended, 4462, as amended; 46 U.S.C. 875, 416. Interpret or apply R.S. 4399, as amended, 4400, as amended, 4417, as amended, 4417a, as amended, 4418, as amended, 4421, as amended, 4426, as amended, 4427, as amended, 4433, as amended, 4453, as amended, 4458, as amended, 4491, as amended, sec. 14, 29 Stat. 690, as amended, sec. 10, 35 Stat. 428, as amended, 41 Stat. 305, as amended, sec. 5, 49 Stat. 1364, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 17, 54 Stat. 166, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 361, 362, 391, 391a, 392, 399, 404, 405, 411, 435, 481; 489, 366, 395, 363, 369, 367, 526p, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury—Department Orders 120, July 31, 1950, 15 F.R. 6321; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4694; CGFR 56-28, July 24, 1956, 21 F.R. 5656; 167-38, Oct. 26, 1959, 24 F.R. 8257.

Subpart 161.002—Fire-Protective Systems

2. The authority note for Subpart 161.002 is deleted since it duplicates the authorities listed for the entire part.

Subpart 161.004—Emergency Loudspeaker System

3. The authority note for Subpart 161.004 is deleted since it duplicates the authorities listed for the entire part.

PART 162—ENGINEERING EQUIPMENT

Subpart 162.001—Safety Valves (Power Boilers)

1. The authority note for Subpart 162.001 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.001 interpret or apply R.S. 4417a, as amended, 4418, as amended, 4426, as amended, 4433, as amended, 4491, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 392, 404, 411, 489.

867, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659.

#### Subpart 162.012—Safety Valves (Steam Heating Boilers)

2. The authority note for Subpart 162.012 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.012 interpret or apply R.S. 4417a, as amended, 4418, as amended, 4426, as amended, 4433, as amended, 4491, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 392, 404, 411, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659.

#### Subpart 162.013—Relief Valves (Hot Water Heating Boilers)

3. The authority note for Subpart 162.013 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.013 interpret or apply R.S. 4417a, as amended, 4418, as amended, 4426, as amended, 4433, as amended, 4491, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 392, 404, 411, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659.

#### Subpart 162.014—Fusible Plugs for Merchant Vessels

4. The authority note for Subpart 162.014 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.014 interpret or apply R.S. 4417a, as amended, 4418, as amended, 4433, as amended, 4438, as amended, 4491, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 392, 411, 481, 489, 367, 1333, 50 U.S.C. 198; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659.

#### Subpart 162.016—Flame Arresters for Tank Vessels

5. The authority note for Subpart 162.016 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.016 interpret or apply R.S. 4417a, as amended, 4491, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 489, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026.

#### Subpart 162.017—Pressure-Vacuum Relief Valves and Spill Valves for Tank Vessels

6. The authority note for Subpart 162.017 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.017 interpret or apply R.S. 4417a, as amended, 4491, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 489, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026.

#### Subpart 162.018—Safety Relief Valves, Liquefied Compressed Gas

7. The authority note for Subpart 162.018 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.018 interpret or apply R.S. 4417a, as amended, 4491, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 489, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026.

#### Subpart 162.026—Boilers, Auxiliary, Automatically Controlled, Packed, for Merchant Vessels

8. The authority note for Subpart 162.026 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.026 interpret or apply R.S. 4417a, as amended, 4418, as amended, 4433, as amended, 4491, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 392, 411, 489, 367, 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; CGFR 56-28, July 24, 1956, 21 F.R. 5659.

#### Subpart 162.027—Nozzles, Firehose, Combination Solid Stream and Water Spray (1 1/2-inch and 2 1/2-inch) for Merchant Vessels

9. The authority note for Subpart 162.027 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.027 interpret or apply R.S. 4417a, as amended, 4418, as amended, 4426, as amended, 4437, as amended, 4438, as amended, 4491, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 17, 54 Stat. 347, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 392, 404, 408, 481, 489, 367, 1333, 526p, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8357.

10. Section 162.027-1(b) is amended to read as follows:

§ 162.027-1 Applicable specifications.

(b) *Copies on file.* Copies of the specifications referred to in this section shall be kept on file by the manufacturer, together with the approved plans and certificate of approval. The Military Specification may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa., 19120. The Federal Specification may be purchased from the Business Service Center, General Services Administration, Washington, D.C., 20405.

11. Section 162.027-2(a) is amended to read as follows:

§ 162.027-2 Type and size.

(a) *Type.* Combination solid stream and water spray firehose nozzles specified by this subpart shall consist essentially of a firehose nozzle body with two discharge outlets, a valve for shut off and directing the flow of water to either outlet, a high-velocity water spray tip, and an applicator with a low-velocity water spray head. One discharge outlet

shall be a straight stream orifice, and the other outlet shall be designed to accommodate either the high-velocity tip or the applicator with the low-velocity head, both of which must be capable of being removed or inserted readily without the use of tools. Combination nozzles shall be designed so that both the high-velocity spray tip and the low-velocity spray head are designed to pass material up to the size of a 3/8-inch diameter ball for the 1 1/2-inch size, and up to a 1/2-inch diameter ball for the 2 1/2-inch size. Nozzles permitting adjustment to obtain a range of spray patterns will not be considered as meeting the requirements of this subpart.

§ 162.027-3 [Amended]

12. Section 162.027-3 *Materials, construction, workmanship, and performance requirements* is amended by deleting subparagraphs (2) and (4) and by redesignating subparagraph (3) as subparagraph (2) in paragraph (b).

§ 162.027-4 [Amended]

13. Section 162.027-4 *Inspections and tests* is amended by deleting paragraph (e) and by redesignating paragraphs (f) and (g) as paragraphs (e) and (f), respectively.

#### Subpart 162.028—Extinguishers, Fire, Portable, Marine Type

14. The authority note for Subpart 162.028 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 162.028 interpret or apply R.S. 4417a, as amended, 4426, as amended, 4438, as amended, 4491, as amended, sec. 1, 2, 49 Stat. 1544, 1545 as amended, sec. 8, 17, 3, 54 Stat. 165 as amended, 166, as amended, 347, as amended, sec. 3, 70 Stat. 133, sec. 4, 67 Stat. 432, and sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 404, 481, 489, 367, 526g, 526p, 1333, 300b, 43 U.S.C. 1333, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-15, Jan. 8, 1956, 20 F.R. 820; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8357.

15. Part 162 is amended by inserting after § 162.028-8 a new Subpart 162.034 consisting of §§ 162.034-1 to 162.034-6, inclusive, reading as follows:

#### Subpart 162.034—International Shore Connections (Ship)

Sec.  
162.034-1 Applicable specifications.  
162.034-2 Type.  
162.034-3 Materials, workmanship, and construction.  
162.034-4 Inspection and tests.  
162.034-5 Marking.  
162.034-6 Procedure for approval.

**AUTHORITY NOTE:** The provisions of this Subpart 162.034 interpret or apply R.S. 4417a, as amended, 4418, as amended, 4426, as amended, 4427, as amended, 4438, as amended, 4491, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 17, 54 Stat. 347, as amended, 166, as amended, sec. 3, 68 Stat. 675; 46 U.S.C. 391a, 392, 404, 405, 481, 489, 367, 1333, 526p, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894;

CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

§ 162.034-1 Applicable specifications.

(a) There are no other specifications applicable to this subpart.

§ 162.034-2 Type.

(a) The international shore connection shall be of one type as specified in this subpart.

§ 162.034-3 Materials, workmanship, and construction.

(a) The connection shall be constructed of brass or bronze suitable for 150 p.s.i. service. The bolts, nuts, and washers shall be of brass or bronze. The gasket shall be of any material suitable for 150 p.s.i. service.

(b) Workmanship shall be first class. Completed units shall be free from imperfections or defects which materially affect appearances or which may affect serviceability.

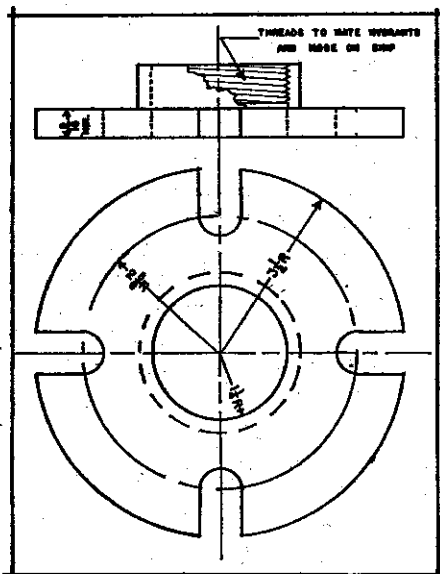


FIGURE 162.034-3(c).

(c) The flange of the connection shall have a flat face on one side and a coupling that will fit the ship's hydrants and hose on the other. The connection and parts shall be in accordance with Figure 162.034-3(c) and the following details:

(1) Connection:

- Outside diameter... 7 inches.
- Inside diameter... 2 1/4 inches.
- Bolt circle diameter... 5/8 inches.
- Bolt holes... 4, each of 3/8-inch diameter equidistantly placed, slotted to the flange periphery.
- Flange thickness... 1/16-inch minimum.
- Flange surface... Flat face.

(2) Bolts, nuts, washers:

- Bolts... 4, each of 3/8-inch diameter, of 2 inches minimum length, threaded to within 1 inch of bolt head.
- Nuts... 4, each of fit bolts.
- Washers... 8, each to fit bolts.

(3) Gasket:

- Gasket... Any suited to 150 p.s.i. service.

§ 162.034-4 Inspection and tests.

(a) International shore connections (ship) specified by this subpart are not subject to factory inspections, but may be subject to shipboard inspections to determine conformance to this subpart.

§ 162.034-5 Marking.

(a) No specific marking is required.

§ 162.034-6 Procedure for approval.

(a) International shore connections (ship) are not subject to formal approval, but will be accepted by the marine inspector on the basis of this subpart at annual inspections and reinspections of vessels.

16. Part 162 is amended by inserting after § 162.034-6 a new Subpart 162.039, consisting of §§ 162.039-1 to 162.039-8, inclusive, reading as follows:

Subpart 162.039—Extinguishers, Fire, Semiportable, Marine Type

- Sec. 162.039-1 Applicable specifications.
- 162.039-2 Classification.
- 162.039-3 Requirements.
- 162.039-4 Marine type label.
- 162.039-5 Recognized laboratory.
- 162.039-6 Examinations, tests, and inspections.
- 162.039-7. Procedure for listing and labeling.
- 162.039-8 Termination of listing of labeling.

**AUTHORITY NOTE:** The provisions of this Subpart 162.039 interpret or apply R.S. 4417a, as amended, 4418, as amended, 4426, as amended, 4427, as amended, 4438, as amended, 4491, as amended, secs. 1, 3, 49 Stat. 1544, 1545, as amended, secs. 3, 17, 54 Stat. 347, as amended, 166, as amended, sec. 3, 88 Stat. 675; 48 U.S.C. 391a, 392, 404, 405, 481, 489, 367, 1333, 526p, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1954, 21 F.R. 4894; CGFR 56-28, July 24, 1956; 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8857.

§ 162.039-1 Applicable specifications.

(a) There are no other Coast Guard specifications applicable to this subpart.

§ 162.039-2 Classification.

(a) Every semiportable fire extinguisher shall be classified as to type and size as specified in § 76.50-5 (Subchapter E—Passenger Vessels) of this chapter.

§ 162.039-3 Requirements.

(a) **General.** Every semiportable fire extinguisher shall conform to the requirements for listing and labeling by a recognized laboratory as a stationary unit and shall be of such design, materials, and construction as to meet the requirements specified in this section.

(b) **Design.** Every semiportable extinguisher shall be arranged for stowage in a fixed location (wheeled units not permitted), fitted with hose of sufficient length to a nozzle or nozzles to provide for suitable application of the extinguishing agent to any part of the space protected (a length of pipe may connect the outlet of the supply to the hose connection); shall weigh more than 55 pounds when fully charged; shall be self-contained, i.e., when charged, it shall not require any additional source of

extinguishing agent or expellent energy for its operation; and shall provide simple means for immediate operation by a single operator. The design, materials and construction shall provide reliability of operation and performance after non-use for long periods under conditions encountered in marine service.

(c) **Materials.** Materials used for exposed working parts, except those used for inversion mechanism or similar purposes, shall be corrosion-resistant to salt water and spray. Materials used for other exposed parts shall be either corrosion-resistant or shall be protected by a suitable corrosion-resistant coating.

(1) **Corrosion-resistant materials.** The materials which are considered to be corrosion-resistant are copper, brass, bronze, certain copper-nickel alloys, certain alloys of aluminum, certain plastics, and certain stainless steels.

(2) **Corrosion-resistant coatings.** (1) The following systems of organic or metallic coatings for exposed nonworking ferrous parts except for ICC cylinders, when applied on properly prepared surfaces after all cutting, forming, and bending operations are completed, are considered to provide suitable corrosion resistance:

(a) Bonderizing, followed by the application of zinc chromate primer, followed by one or more applications of enamel; or,

(b) Inorganic zinc coatings; or,

(c) Hot-dipped or electrodeposited zinc in thicknesses not less than 0.002 inch; or,

(d) Electrodeposited Cadmium in thicknesses not less than 0.001 inch; or,

(e) Hot-dipped or sprayed aluminum in thicknesses not less than 0.002 inch; or,

(f) Copper plus nickel in total thicknesses not less than 0.003 inch, or which the nickel is not less than 0.002 inch, plus any thickness of chrome.

(ii) The metallic platings of less than the thicknesses specified in this paragraph are not acceptable for the protection against corrosion of ferrous parts.

(3) **Decorative platings.** Decorative platings in any thicknesses applied over corrosion-resistant materials and corrosion-resistant coatings are acceptable for either working or nonworking parts.

(4) **Dissimilar metals.** The use of dissimilar metals in combination shall be avoided wherever possible, but when such contacts are necessary, provisions (such as bushings, gaskets, or o-rings) shall be employed to prevent such deleterious effects as galvanic corrosion, freazing or buckling of parts, and loosening or tightening of joints due to differences in thermal expansion.

(5) **Suitability of materials.** In event of question as to the suitability of the materials (including coatings) used, the salt spray test described in subparagraph (6) of this paragraph shall be conducted.

(6) **Salt spray test.** Expose the complete fully charged specimen extinguisher to a 20 percent sodium-chloride solution spray at a temperature of 95° F. (35° C.) for a period of 240 hours. The procedures and apparatus described in Method 811 of Federal Test Method Standard No. 151 are suitable. Alternate

## RULES AND REGULATIONS

methods may be found satisfactory if the results are comparable. Following the test, allow the specimen extinguisher to air dry for a period of 48 hours. Following the air drying, the specimen extinguisher shall be capable of being operated satisfactorily without undue effort or special procedures on the part of the operator, and it shall be capable of being recharged satisfactorily in accordance with the directions on the nameplate without the use of extraordinary tools or procedures.

(d) *Gages.* Every pressure gage used on a semiportable fire extinguisher shall have an accuracy of at least 2 percent of the scale range for the middle half of the scale conforming to ASME Grade B commercial accuracy. The gage when new shall be watertight, i.e., with the connection capped or plugged, no water shall penetrate to the interior of the case during submergence 1 foot below the surface of water for a period of 2 hours. The gage shall be constructed of corrosion-resistant materials, so that the pointer or face lettering will not be obliterated by the action of salt water if some leakage should occur after rough handling or extended periods of service. The gage, when attached to the extinguisher, shall pass the salt spray and vibration tests prescribed by paragraphs (c) (6) and (e) of this section.

(e) *Vibration resistance.* Either component parts, subassemblies, or the complete, fully charged specimen extinguisher, shall be tested in accordance with §§ 3.1 through 3.1.4.4 of Military Standard MIL-STD-167. Following this test, there shall be no obvious failures of parts or assemblies, and they shall be capable of being operated satisfactorily without undue effort or special procedures on the part of the operator, and the extinguisher shall be capable of being recharged satisfactorily in accordance with the directions on the name plate without the use of extraordinary tools or procedures.

(f) *Carbon dioxide type.* Every carbon dioxide type extinguisher shall be fitted with a valve which will withstand a minimum bursting pressure of 6,000 p.s.i., and a discharge hose or tube which will withstand a minimum bursting pressure of 5,000 p.s.i. The hose shall be constructed with either a wire braid or other conducting material for conducting static charges occurring at the discharge nozzle back to the body of the extinguisher.

(g) *Chemical-foam type.* Every chemical foam type semiportable fire extinguisher shall have a nozzle which will provide operating characteristics such that when it is held about 3 feet above the ground at an elevation of approximately 30°, and with the extinguisher and contents both at approximately 70° F. and 120° F., the range of the stream shall not exceed 40 feet, and the major portion of the discharge shall fall between 20 and 40 feet, measured horizontally, from the nozzle. The duration of the effective discharge shall be between 2.5 and 4.0 minutes, effective discharge being considered as occurring while the major portion of the discharge falls be-

yond 10 feet, measured horizontally, from the nozzle.

(h) *Dry chemical type.* Every dry chemical type semiportable fire extinguisher shall contain dry chemical of the foam compatible type, i.e., dry chemical which has been found to be compatible with the mechanical foams used aboard vessels.

(i) *Toxic extinguishing agents.* Every semiportable fire extinguisher shall contain only agents which qualify for the Underwriters' Laboratories, Inc., toxicity rating of Group 5 or Group 6, and which in normal fire extinguishing use do not generate decomposition products in concentrations hazardous to life. Acceptance of extinguishing agents under these requirements will be determined by the Coast Guard.

(j) *Fire tests.* Fire tests may be employed in determining the suitability for "marine type" listing and labeling.

(k) *Additional tests.* Every semiportable extinguisher may be additionally examined and tested to establish its reliability and effectiveness in accordance with the intent of this specification for a "marine type" semiportable fire extinguisher when considered necessary by the Coast Guard or by the recognized laboratory.

(l) *Additional marking.* (1) As part of the usual nameplate marking, there shall be included the rated capacity of the extinguisher in gallons, quarts, or pounds, and complete instructions for recharging, including the identification of the recharge materials and of the pressure containing cylinder or separate container if one is used.

(2) Pasted-on type paper or decalcomania labels are not acceptable for any of the required extinguisher marking.

(3) Recharge packages shall be legibly marked with the name of the recharge and the capacity of contents in gallons, quarts, or pounds in addition to the usual recharge package marking. Recharge pressure containing cylinders shall, in addition to the usual marking, also be plainly marked to show the distinctive identifying designation of the cylinder.

(m) *Securing means.* Every semiportable fire extinguisher shall be supplied with a suitable means for holding the extinguisher securely in its stowage location on vessels or boats. The materials shall be sufficiently corrosion-resistant or protected against corrosion to withstand the test prescribed by paragraph (c) (8) of this section without showing more than traces of slight corrosion, which may be easily wiped off after rinsing with tapwater.

#### § 162.039-4 Marine type label.

(a) In addition to all other marking, every semiportable extinguisher shall bear a label containing the "marine type" listing manifest issued by a recognized laboratory. This label will include the classification of the extinguisher in accordance with the Coast Guard classification system, and the Coast Guard approval number, thus: "Marine Type USCG Type \_\_\_\_\_, Size \_\_\_\_\_, Approval No. 162.039/Ex\_\_\_\_." All such labels are to be obtained from the recognized labo-

ratory and will remain under its control until attached to product found acceptable under its listing and labeling program.

#### § 162.039-5 Recognized laboratory.

(a) A recognized laboratory is one which is regularly engaged in the examination, testing, and evaluation of semiportable fire extinguishers; which has an established factory inspection, listing, and labeling program; and which has special standards for listing and labeling as a "marine type" semiportable fire extinguisher acceptable to the Commandant as approved for use on merchant vessels and motorboats. The following laboratories are recognized, and the semiportable fire extinguishers bearing their "marine type" labels are approved for use on merchant vessels and motorboats:

(1) Underwriters' Laboratories, Inc., mailing address: Post Office Box 247, Northbrook, Ill., 60062.

#### § 162.039-6 Examinations, tests, and inspections.

(a) Full examinations, tests, and inspections to determine the suitability of a product for listing and labeling, and to determine conformance of labeled product to the applicable requirements are conducted by the recognized laboratory. Whenever any work is being done on components or the assembly of such product, the manufacturer shall notify the recognized laboratory in order that an inspector may be assigned to the factory to conduct such examinations, inspections, and tests as to satisfy himself that the quality assurance program of the manufacturer is satisfactory, and that the labeled product is in conformance with the applicable requirements.

(b) Manufacturers of listed or labeled marine type semiportable fire extinguishers shall maintain quality control of the materials used, manufacturing methods, and the finished product so as to meet the applicable requirements; and shall make sufficient inspections and tests of representative samples of the extinguishers and various components produced to maintain the quality of the finished product. Records of tests conducted by the manufacturer shall be made available to the laboratory inspector or to the Coast Guard marine inspector, or both, for review upon request.

(c) Followup check tests, examinations, and inspections of product listed and labeled as a "marine type" semiportable fire extinguisher acceptable to the Commandant as approved for use on merchant vessels and motorboats may be conducted by the Coast Guard, as well as by the recognized laboratory.

(d) The laboratory inspector, or the Coast Guard merchant marine inspector assigned by the Commander of the District in which the factory is located, or both, shall be admitted to any place in the factory where work is being done on listed or labeled product, and either or both inspectors may take samples of parts or materials entering into construction, of final assemblies, for further ex-

aminations, inspections, or tests. The manufacturer shall provide a suitable place and the apparatus necessary for the performance of the tests which are done at the place of manufacture.

**§ 162.039-7 Procedure for listing and labeling.**

(a) Manufacturers having models of extinguishers which they believe are suitable for marine service may make application for listing and labeling of such product as a "marine type" semiportable fire extinguisher which will be acceptable to the Commandant as approved for use on merchant vessels, by addressing a request directly to a recognized laboratory. The laboratory will inform the submitter as to the requirements for inspections, examinations, and testing necessary for such listing and labeling. All costs in connection with the examinations, tests, and inspections, listings and labelings are payable by the manufacturer.

**§ 162.039-8 Termination of listing or labeling.**

(a) Listing or labeling as a marine type semiportable fire extinguisher acceptable to the Commandant as approved for use on inspected vessels or motorboats may be terminated, withdrawn, canceled, or suspended by written notice to the recognized laboratory from the Commandant, or by written notice to the manufacturer from the recognized laboratory or from the Commandant, under the following conditions:

- (1) When the manufacturer does not desire to retain the service.
- (2) When the listed product is no longer being manufactured.
- (3) When the manufacturer's own program does not provide suitable assurance of the quality of the listed or labeled product being manufactured.
- (4) When the product manufactured no longer conforms to the current applicable requirements.

**PART 163—CONSTRUCTION**

**Subpart 163.001—Doors, Watertight, Sliding (and Door Controls), for Merchant Vessels**

1. The authority note for Subpart 163.001 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 163.001 issued under R.S. 4405, as amended, 4462, as amended; 46 U.S.C. 375, 416. Interpret or apply R.S. 4417, as amended, 4417a, as amended, 4418, as amended, 4426, as amended, 4488, as amended, 4490, as amended, sec. 14, 29 Stat. 690, as amended, 41 Stat. 805, as amended, sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 889, as amended, sec. 5, 49 Stat. 1384, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391, 391a, 392, 392a, 392b, 392c, 392d, 392e, 392f, 392g, 392h, 392i, 392j, 392k, 392l, 392m, 392n, 392o, 392p, 392q, 392r, 392s, 392t, 392u, 392v, 392w, 392x, 392y, 392z, 393, 393a, 393b, 393c, 393d, 393e, 393f, 393g, 393h, 393i, 393j, 393k, 393l, 393m, 393n, 393o, 393p, 393q, 393r, 393s, 393t, 393u, 393v, 393w, 393x, 393y, 393z, 394, 394a, 394b, 394c, 394d, 394e, 394f, 394g, 394h, 394i, 394j, 394k, 394l, 394m, 394n, 394o, 394p, 394q, 394r, 394s, 394t, 394u, 394v, 394w, 394x, 394y, 394z, 395, 395a, 395b, 395c, 395d, 395e, 395f, 395g, 395h, 395i, 395j, 395k, 395l, 395m, 395n, 395o, 395p, 395q, 395r, 395s, 395t, 395u, 395v, 395w, 395x, 395y, 395z, 396, 396a, 396b, 396c, 396d, 396e, 396f, 396g, 396h, 396i, 396j, 396k, 396l, 396m, 396n, 396o, 396p, 396q, 396r, 396s, 396t, 396u, 396v, 396w, 396x, 396y, 396z, 397, 397a, 397b, 397c, 397d, 397e, 397f, 397g, 397h, 397i, 397j, 397k, 397l, 397m, 397n, 397o, 397p, 397q, 397r, 397s, 397t, 397u, 397v, 397w, 397x, 397y, 397z, 398, 398a, 398b, 398c, 398d, 398e, 398f, 398g, 398h, 398i, 398j, 398k, 398l, 398m, 398n, 398o, 398p, 398q, 398r, 398s, 398t, 398u, 398v, 398w, 398x, 398y, 398z, 399, 399a, 399b, 399c, 399d, 399e, 399f, 399g, 399h, 399i, 399j, 399k, 399l, 399m, 399n, 399o, 399p, 399q, 399r, 399s, 399t, 399u, 399v, 399w, 399x, 399y, 399z, 400, 400a, 400b, 400c, 400d, 400e, 400f, 400g, 400h, 400i, 400j, 400k, 400l, 400m, 400n, 400o, 400p, 400q, 400r, 400s, 400t, 400u, 400v, 400w, 400x, 400y, 400z, 401, 401a, 401b, 401c, 401d, 401e, 401f, 401g, 401h, 401i, 401j, 401k, 401l, 401m, 401n, 401o, 401p, 401q, 401r, 401s, 401t, 401u, 401v, 401w, 401x, 401y, 401z, 402, 402a, 402b, 402c, 402d, 402e, 402f, 402g, 402h, 402i, 402j, 402k, 402l, 402m, 402n, 402o, 402p, 402q, 402r, 402s, 402t, 402u, 402v, 402w, 402x, 402y, 402z, 403, 403a, 403b, 403c, 403d, 403e, 403f, 403g, 403h, 403i, 403j, 403k, 403l, 403m, 403n, 403o, 403p, 403q, 403r, 403s, 403t, 403u, 403v, 403w, 403x, 403y, 403z, 404, 404a, 404b, 404c, 404d, 404e, 404f, 404g, 404h, 404i, 404j, 404k, 404l, 404m, 404n, 404o, 404p, 404q, 404r, 404s, 404t, 404u, 404v, 404w, 404x, 404y, 404z, 405, 405a, 405b, 405c, 405d, 405e, 405f, 405g, 405h, 405i, 405j, 405k, 405l, 405m, 405n, 405o, 405p, 405q, 405r, 405s, 405t, 405u, 405v, 405w, 405x, 405y, 405z, 406, 406a, 406b, 406c, 406d, 406e, 406f, 406g, 406h, 406i, 406j, 406k, 406l, 406m, 406n, 406o, 406p, 406q, 406r, 406s, 406t, 406u, 406v, 406w, 406x, 406y, 406z, 407, 407a, 407b, 407c, 407d, 407e, 407f, 407g, 407h, 407i, 407j, 407k, 407l, 407m, 407n, 407o, 407p, 407q, 407r, 407s, 407t, 407u, 407v, 407w, 407x, 407y, 407z, 408, 408a, 408b, 408c, 408d, 408e, 408f, 408g, 408h, 408i, 408j, 408k, 408l, 408m, 408n, 408o, 408p, 408q, 408r, 408s, 408t, 408u, 408v, 408w, 408x, 408y, 408z, 409, 409a, 409b, 409c, 409d, 409e, 409f, 409g, 409h, 409i, 409j, 409k, 409l, 409m, 409n, 409o, 409p, 409q, 409r, 409s, 409t, 409u, 409v, 409w, 409x, 409y, 409z, 410, 410a, 410b, 410c, 410d, 410e, 410f, 410g, 410h, 410i, 410j, 410k, 410l, 410m, 410n, 410o, 410p, 410q, 410r, 410s, 410t, 410u, 410v, 410w, 410x, 410y, 410z, 411, 411a, 411b, 411c, 411d, 411e, 411f, 411g, 411h, 411i, 411j, 411k, 411l, 411m, 411n, 411o, 411p, 411q, 411r, 411s, 411t, 411u, 411v, 411w, 411x, 411y, 411z, 412, 412a, 412b, 412c, 412d, 412e, 412f, 412g, 412h, 412i, 412j, 412k, 412l, 412m, 412n, 412o, 412p, 412q, 412r, 412s, 412t, 412u, 412v, 412w, 412x, 412y, 412z, 413, 413a, 413b, 413c, 413d, 413e, 413f, 413g, 413h, 413i, 413j, 413k, 413l, 413m, 413n, 413o, 413p, 413q, 413r, 413s, 413t, 413u, 413v, 413w, 413x, 413y, 413z, 414, 414a, 414b, 414c, 414d, 414e, 414f, 414g, 414h, 414i, 414j, 414k, 414l, 414m, 414n, 414o, 414p, 414q, 414r, 414s, 414t, 414u, 414v, 414w, 414x, 414y, 414z, 415, 415a, 415b, 415c, 415d, 415e, 415f, 415g, 415h, 415i, 415j, 415k, 415l, 415m, 415n, 415o, 415p, 415q, 415r, 415s, 415t, 415u, 415v, 415w, 415x, 415y, 415z, 416, 416a, 416b, 416c, 416d, 416e, 416f, 416g, 416h, 416i, 416j, 416k, 416l, 416m, 416n, 416o, 416p, 416q, 416r, 416s, 416t, 416u, 416v, 416w, 416x, 416y, 416z, 417, 417a, 417b, 417c, 417d, 417e, 417f, 417g, 417h, 417i, 417j, 417k, 417l, 417m, 417n, 417o, 417p, 417q, 417r, 417s, 417t, 417u, 417v, 417w, 417x, 417y, 417z, 418, 418a, 418b, 418c, 418d, 418e, 418f, 418g, 418h, 418i, 418j, 418k, 418l, 418m, 418n, 418o, 418p, 418q, 418r, 418s, 418t, 418u, 418v, 418w, 418x, 418y, 418z, 419, 419a, 419b, 419c, 419d, 419e, 419f, 419g, 419h, 419i, 419j, 419k, 419l, 419m, 419n, 419o, 419p, 419q, 419r, 419s, 419t, 419u, 419v, 419w, 419x, 419y, 419z, 420, 420a, 420b, 420c, 420d, 420e, 420f, 420g, 420h, 420i, 420j, 420k, 420l, 420m, 420n, 420o, 420p, 420q, 420r, 420s, 420t, 420u, 420v, 420w, 420x, 420y, 420z, 421, 421a, 421b, 421c, 421d, 421e, 421f, 421g, 421h, 421i, 421j, 421k, 421l, 421m, 421n, 421o, 421p, 421q, 421r, 421s, 421t, 421u, 421v, 421w, 421x, 421y, 421z, 422, 422a, 422b, 422c, 422d, 422e, 422f, 422g, 422h, 422i, 422j, 422k, 422l, 422m, 422n, 422o, 422p, 422q, 422r, 422s, 422t, 422u, 422v, 422w, 422x, 422y, 422z, 423, 423a, 423b, 423c, 423d, 423e, 423f, 423g, 423h, 423i, 423j, 423k, 423l, 423m, 423n, 423o, 423p, 423q, 423r, 423s, 423t, 423u, 423v, 423w, 423x, 423y, 423z, 424, 424a, 424b, 424c, 424d, 424e, 424f, 424g, 424h, 424i, 424j, 424k, 424l, 424m, 424n, 424o, 424p, 424q, 424r, 424s, 424t, 424u, 424v, 424w, 424x, 424y, 424z, 425, 425a, 425b, 425c, 425d, 425e, 425f, 425g, 425h, 425i, 425j, 425k, 425l, 425m, 425n, 425o, 425p, 425q, 425r, 425s, 425t, 425u, 425v, 425w, 425x, 425y, 425z, 426, 426a, 426b, 426c, 426d, 426e, 426f, 426g, 426h, 426i, 426j, 426k, 426l, 426m, 426n, 426o, 426p, 426q, 426r, 426s, 426t, 426u, 426v, 426w, 426x, 426y, 426z, 427, 427a, 427b, 427c, 427d, 427e, 427f, 427g, 427h, 427i, 427j, 427k, 427l, 427m, 427n, 427o, 427p, 427q, 427r, 427s, 427t, 427u, 427v, 427w, 427x, 427y, 427z, 428, 428a, 428b, 428c, 428d, 428e, 428f, 428g, 428h, 428i, 428j, 428k, 428l, 428m, 428n, 428o, 428p, 428q, 428r, 428s, 428t, 428u, 428v, 428w, 428x, 428y, 428z, 429, 429a, 429b, 429c, 429d, 429e, 429f, 429g, 429h, 429i, 429j, 429k, 429l, 429m, 429n, 429o, 429p, 429q, 429r, 429s, 429t, 429u, 429v, 429w, 429x, 429y, 429z, 430, 430a, 430b, 430c, 430d, 430e, 430f, 430g, 430h, 430i, 430j, 430k, 430l, 430m, 430n, 430o, 430p, 430q, 430r, 430s, 430t, 430u, 430v, 430w, 430x, 430y, 430z, 431, 431a, 431b, 431c, 431d, 431e, 431f, 431g, 431h, 431i, 431j, 431k, 431l, 431m, 431n, 431o, 431p, 431q, 431r, 431s, 431t, 431u, 431v, 431w, 431x, 431y, 431z, 432, 432a, 432b, 432c, 432d, 432e, 432f, 432g, 432h, 432i, 432j, 432k, 432l, 432m, 432n, 432o, 432p, 432q, 432r, 432s, 432t, 432u, 432v, 432w, 432x, 432y, 432z, 433, 433a, 433b, 433c, 433d, 433e, 433f, 433g, 433h, 433i, 433j, 433k, 433l, 433m, 433n, 433o, 433p, 433q, 433r, 433s, 433t, 433u, 433v, 433w, 433x, 433y, 433z, 434, 434a, 434b, 434c, 434d, 434e, 434f, 434g, 434h, 434i, 434j, 434k, 434l, 434m, 434n, 434o, 434p, 434q, 434r, 434s, 434t, 434u, 434v, 434w, 434x, 434y, 434z, 435, 435a, 435b, 435c, 435d, 435e, 435f, 435g, 435h, 435i, 435j, 435k, 435l, 435m, 435n, 435o, 435p, 435q, 435r, 435s, 435t, 435u, 435v, 435w, 435x, 435y, 435z, 436, 436a, 436b, 436c, 436d, 436e, 436f, 436g, 436h, 436i, 436j, 436k, 436l, 436m, 436n, 436o, 436p, 436q, 436r, 436s, 436t, 436u, 436v, 436w, 436x, 436y, 436z, 437, 437a, 437b, 437c, 437d, 437e, 437f, 437g, 437h, 437i, 437j, 437k, 437l, 437m, 437n, 437o, 437p, 437q, 437r, 437s, 437t, 437u, 437v, 437w, 437x, 437y, 437z, 438, 438a, 438b, 438c, 438d, 438e, 438f, 438g, 438h, 438i, 438j, 438k, 438l, 438m, 438n, 438o, 438p, 438q, 438r, 438s, 438t, 438u, 438v, 438w, 438x, 438y, 438z, 439, 439a, 439b, 439c, 439d, 439e, 439f, 439g, 439h, 439i, 439j, 439k, 439l, 439m, 439n, 439o, 439p, 439q, 439r, 439s, 439t, 439u, 439v, 439w, 439x, 439y, 439z, 440, 440a, 440b, 440c, 440d, 440e, 440f, 440g, 440h, 440i, 440j, 440k, 440l, 440m, 440n, 440o, 440p, 440q, 440r, 440s, 440t, 440u, 440v, 440w, 440x, 440y, 440z, 441, 441a, 441b, 441c, 441d, 441e, 441f, 441g, 441h, 441i, 441j, 441k, 441l, 441m, 441n, 441o, 441p, 441q, 441r, 441s, 441t, 441u, 441v, 441w, 441x, 441y, 441z, 442, 442a, 442b, 442c, 442d, 442e, 442f, 442g, 442h, 442i, 442j, 442k, 442l, 442m, 442n, 442o, 442p, 442q, 442r, 442s, 442t, 442u, 442v, 442w, 442x, 442y, 442z, 443, 443a, 443b, 443c, 443d, 443e, 443f, 443g, 443h, 443i, 443j, 443k, 443l, 443m, 443n, 443o, 443p, 443q, 443r, 443s, 443t, 443u, 443v, 443w, 443x, 443y, 443z, 444, 444a, 444b, 444c, 444d, 444e, 444f, 444g, 444h, 444i, 444j, 444k, 444l, 444m, 444n, 444o, 444p, 444q, 444r, 444s, 444t, 444u, 444v, 444w, 444x, 444y, 444z, 445, 445a, 445b, 445c, 445d, 445e, 445f, 445g, 445h, 445i, 445j, 445k, 445l, 445m, 445n, 445o, 445p, 445q, 445r, 445s, 445t, 445u, 445v, 445w, 445x, 445y, 445z, 446, 446a, 446b, 446c, 446d, 446e, 446f, 446g, 446h, 446i, 446j, 446k, 446l, 446m, 446n, 446o, 446p, 446q, 446r, 446s, 446t, 446u, 446v, 446w, 446x, 446y, 446z, 447, 447a, 447b, 447c, 447d, 447e, 447f, 447g, 447h, 447i, 447j, 447k, 447l, 447m, 447n, 447o, 447p, 447q, 447r, 447s, 447t, 447u, 447v, 447w, 447x, 447y, 447z, 448, 448a, 448b, 448c, 448d, 448e, 448f, 448g, 448h, 448i, 448j, 448k, 448l, 448m, 448n, 448o, 448p, 448q, 448r, 448s, 448t, 448u, 448v, 448w, 448x, 448y, 448z, 449, 449a, 449b, 449c, 449d, 449e, 449f, 449g, 449h, 449i, 449j, 449k, 449l, 449m, 449n, 449o, 449p, 449q, 449r, 449s, 449t, 449u, 449v, 449w, 449x, 449y, 449z, 450, 450a, 450b, 450c, 450d, 450e, 450f, 450g, 450h, 450i, 450j, 450k, 450l, 450m, 450n, 450o, 450p, 450q, 450r, 450s, 450t, 450u, 450v, 450w, 450x, 450y, 450z, 451, 451a, 451b, 451c, 451d, 451e, 451f, 451g, 451h, 451i, 451j, 451k, 451l, 451m, 451n, 451o, 451p, 451q, 451r, 451s, 451t, 451u, 451v, 451w, 451x, 451y, 451z, 452, 452a, 452b, 452c, 452d, 452e, 452f, 452g, 452h, 452i, 452j, 452k, 452l, 452m, 452n, 452o, 452p, 452q, 452r, 452s, 452t, 452u, 452v, 452w, 452x, 452y, 452z, 453, 453a, 453b, 453c, 453d, 453e, 453f, 453g, 453h, 453i, 453j, 453k, 453l, 453m, 453n, 453o, 453p, 453q, 453r, 453s, 453t, 453u, 453v, 453w, 453x, 453y, 453z, 454, 454a, 454b, 454c, 454d, 454e, 454f, 454g, 454h, 454i, 454j, 454k, 454l, 454m, 454n, 454o, 454p, 454q, 454r, 454s, 454t, 454u, 454v, 454w, 454x, 454y, 454z, 455, 455a, 455b, 455c, 455d, 455e, 455f, 455g, 455h, 455i, 455j, 455k, 455l, 455m, 455n, 455o, 455p, 455q, 455r, 455s, 455t, 455u, 455v, 455w, 455x, 455y, 455z, 456, 456a, 456b, 456c, 456d, 456e, 456f, 456g, 456h, 456i, 456j, 456k, 456l, 456m, 456n, 456o, 456p, 456q, 456r, 456s, 456t, 456u, 456v, 456w, 456x, 456y, 456z, 457, 457a, 457b, 457c, 457d, 457e, 457f, 457g, 457h, 457i, 457j, 457k, 457l, 457m, 457n, 457o, 457p, 457q, 457r, 457s, 457t, 457u, 457v, 457w, 457x, 457y, 457z, 458, 458a, 458b, 458c, 458d, 458e, 458f, 458g, 458h, 458i, 458j, 458k, 458l, 458m, 458n, 458o, 458p, 458q, 458r, 458s, 458t, 458u, 458v, 458w, 458x, 458y, 458z, 459, 459a, 459b, 459c, 459d, 459e, 459f, 459g, 459h, 459i, 459j, 459k, 459l, 459m, 459n, 459o, 459p, 459q, 459r, 459s, 459t, 459u, 459v, 459w, 459x, 459y, 459z, 460, 460a, 460b, 460c, 460d, 460e, 460f, 460g, 460h, 460i, 460j, 460k, 460l, 460m, 460n, 460o, 460p, 460q, 460r, 460s, 460t, 460u, 460v, 460w, 460x, 460y, 460z, 461, 461a, 461b, 461c, 461d, 461e, 461f, 461g, 461h,

or balance sensitive and accurate to 0.5 percent or less of the total weight. The dimensional and weight measurements shall not be made until the sample has been conditioned 1 week, or longer if required to reach constant weight, in an atmosphere at  $73 \pm 2^\circ \text{F}$ . and  $50 \pm 5$  percent relative humidity.

(c) *Content of moisture and volatile matter.* Transfer a weighed sample cut from the density specimen, previously conditioned to equilibrium at  $73 \pm 2^\circ \text{F}$ . and  $50 \pm 5$  percent relative humidity, to a previously weighed wide-mouth weighing bottle provided with a glass stopper. Remove the stopper and heat the bottle and sample at  $105 \pm 5^\circ \text{C}$ . for 4 hours, insert the stopper, cool, and weigh. Calculate the content of moisture and other volatiles as percent of the final dry weight of the sample.

(d) *Fire resistance test.* (1) Except as modified by this paragraph, the tests shall be conducted in accordance with the American Society for Testing Materials Standard E-119.

(2) Representative samples of the structural insulation, of a thickness or thicknesses and density as specified in § 164.007-4(b), shall be tested as part of a sandwich panel assembly which forms a portion of a vertical wall of a furnace. The assembly shall be at least 40 by 60 inches in size. The insulation shall be held in place between a  $\frac{1}{8}$  inch steel plate on the outside of the furnace and a 20 gage sheet steel cover plate on the fire side. No metallic fastenings through the insulation shall be used. Spacer strips of asbestos cement board or similar material, up to 2 inches in width, built up to the same thickness as the insulation being tested, shall be installed around the periphery of the panel. Through fastenings for the cover shall be held to a minimum, and shall be made only near the edge of the panel through the spacer strips. Any necessary stiffening members on the sheet metal or the  $\frac{1}{8}$  inch steel plate shall be installed on the faces not adjacent to the insulation. At least five thermocouples shall be installed between the insulation and the  $\frac{1}{8}$  inch plate. The thermocouple junctions and any adjoining bare lead wire shall be fitted with asbestos sleeves to prevent contact with the metal. The thermocouples shall be so spaced as to obtain representative temperatures over the center half of the panel area. The furnace shall be heated, and the average furnace temperature as indicated by five or more thermocouples distributed in the furnace shall be controlled according to the standard fire exposure curve reaching  $1,700^\circ \text{F}$ . at the end of 1 hour. The reading of all thermocouples shall be recorded at intervals not greater than 5 minutes throughout the test.

(3) Data from these tests shall be analyzed to determine the minimum thickness necessary to limit the average temperature rise on the cooler surface of the insulation to  $250^\circ \text{F}$ . above the original temperature or the maximum rise at any one thermocouple location on this surface to  $325^\circ \text{F}$ . above the original temperature at the end of 60 minutes.

(e) *Spot check tests.* (1) Structural insulation is not inspected at regularly

scheduled factory inspections; however, the Commander of the Coast Guard District in which the plant is located may detail a marine inspector at any time to visit any place where structural insulation is manufactured to conduct any inspections or examinations deemed advisable and to select representative samples for further examination, inspection, or tests. The marine inspector shall be admitted to any place where work is done on structural insulation or component materials.

(2) Manufacturers of approved structural insulation shall maintain quality control of materials used, manufacturing methods, and the finished product so as to meet the requirements of this specification, and any other conditions outlined on the certificate of approval, but the Coast Guard also reserves the right to make spot-check tests of approved structural insulation at any time on samples selected by a marine inspector at the place of manufacture or samples obtained from other sources in the field. The manufacturer will incur no expense for such tests, but the results shall be binding upon the approval of his product. The manufacturer will be advised in advance of the time of testing of the samples selected and may witness the tests if he so desires.

#### § 164.007-4 Procedure for approval.

(a) If a manufacturer desires to have a structural insulation approved, a request shall be presented to the Commandant of the Coast Guard together with the following:

(1) If the material has already been approved as an Incombustible Material under Subpart 164.009, the approval number of the material shall be indicated. If the material has not been approved as an Incombustible Material, the procedure set forth in Subpart 164.009 shall be followed; and such approval shall be obtained prior to submittal under this specification.

(2) A description and trade name of the structural insulation.

(3) A statement of the composition of the material and the percentage of each component.

(4) A sample of the material at least 1 foot square in each thickness and density of the material as manufactured.

(5) The range of thicknesses and densities in which it is proposed to manufacture or use the material together with any information or recommendations the manufacturer may have as to maximum or minimum thickness or densities.

(6) The location of the place where the material will be manufactured.

(7) Description of attachment to or protection of the bulkhead or deck. If an adhesive is used, a liberal sample shall be supplied.

(b) The above information will be examined by the Coast Guard when the material has been approved as an "Incombustible Material," and if it is indicated that the material is in all respects suitable for testing, the manufacturer will be so advised. The recommended thickness and density of the sample for the fire resistance test will be specified at this time, together with the estimated cost of the required test.

(c) If the material is indicated as being suitable for testing, the manufacturer shall submit the recommended size of samples to the Fire Research Section of the National Bureau of Standards, Washington, D.C., 20234, and shall advise the Coast Guard of the shipment. (A separate test will be made for each density of the material for which approval is desired.)

(d) At this time the manufacturer shall submit to the Coast Guard the following:

(1) A statement that the material as offered for testing and, as described pursuant to paragraph (a)(3) of this section, is completely representative of the product which will be manufactured and sold under U.S. Coast Guard approval if such approval is granted.

(2) A commitment that he will reimburse the National Bureau of Standards for the cost or review of the tests when billed by them.

(3) If the manufacturer desires to witness the test, he should so indicate at this time.

(e) The National Bureau of Standards will then be authorized to conduct the tests noted in § 164.007-3(b) and, upon completion of all testing, the manufacturer will be billed directly by the National Bureau of Standards. Four copies of the test report will be submitted to the Coast Guard.

(f) A copy of the report will be forwarded to the manufacturer and he will be advised if his material is approved under this subpart. If approved, any stipulations of the approval will be specified; and this information will be published in the FEDERAL REGISTER, and an Approval Certificate will be issued to the manufacturer.

(g) If the manufacturer desires to have the tests conducted at some laboratory other than the National Bureau of Standards, this information shall be supplied at the time of initial contact with the Coast Guard. If the proposed laboratory is acceptable to the Coast Guard, the manufacturer will be so advised, and any special testing requirements will be made at this time. The Coast Guard shall be notified in advance of the date of the test so that a representative may be present.

(h) The laboratory shall submit four copies of a detailed test report to the Coast Guard together with representative samples of the material taken before and after testing. The test report and samples will be examined by the National Bureau of Standards for compliance with this subpart. The test report shall include the following information together with any other pertinent data:

(1) Description of the panel tested giving details of the assembly comprising steel plates, insulation (thickness and density), spacer strips and fastening. Also the method of mounting the panel assembly in the test furnace.

(2) Complete time-temperature data, including initial temperature, for each thermocouple together with curves of average temperature for each surface of the insulation.

(3) A log setting forth the observer's notes relative to deflections, cracking or

loosening of the insulation, smoke or gas emission, glow, flame emission, and any other important data. The time of each observation should be noted.

(4) Photographs of both sides of the panel before and after testing. The sheet metal cover should be removed for the photograph after the test.

#### Subpart 164.008—Bulkhead Panels for Merchant Vessels

6. The authority note for Subpart 164.008 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 164.008 interpret or apply R.S. 4417, as amended, 4417a, as amended, 4418, as amended, 4426, as amended, 4439, as amended, sec. 5, 49 Stat. 1984, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391, 391a, 392, 404, 481, 399, 387, 1933, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4994; CGFR 56-23, July 24, 1956, 21 F.R. 5639; 167-38, Oct. 26, 1959, 24 F.R. 8857.

7. Section 164.008-1 is amended to read as follows:

#### § 164.008-1 Applicable specifications.

(a) *Specifications.* The following specifications, of the issue in effect on the date of manufacture of the bulkhead panel, shall form a part of this subpart where applicable:

##### (1) Coast Guard specification:

Subpart 164.009—Incombustible Materials for Merchant Vessels.

##### (2) American Society for Testing Materials specification:

ASTM E-119—Methods of Fire Tests of Building Construction and Materials.

(b) *Copies on file.* Copies of the specifications referred to in this section shall be kept on file by the manufacturer, together with the certificate of approval. The Coast Guard specification may be obtained upon request from the Commandant, U.S. Coast Guard, Washington, D.C., 20234. The American Society for Testing Materials specification may be purchased from the American Society of Testing Materials, 1916 Race Street, Philadelphia, Pa., 19103.

8. Section 164.008-3(b) (1) and (2) are amended to read as follows:

#### § 164.008-3 Inspection and testing.

##### (b) *Fire resistance and integrity test.*

(1) The tests shall be conducted in accordance with the provisions of ASTM E-119, Methods of Fire Tests of Building Construction and Materials. A representative bulkhead panel, of a size as indicated in § 164.008-4(c) (1), shall be installed in a furnace to form part of one wall. The furnace shall be heated and the temperature controlled according to the standard fire exposure curve reaching 1,550° F. at the end of 30 minutes and 1,700° F. at the end of 1 hour. The neutral pressure axis in the furnace shall be located not above the ½ height of the test specimen. The temperature of the nonfire exposed side, as indicated by nine thermocouples under 6-inch by 6-inch by 0.40-inch thick felted asbestos pads, three of which thermocouples shall be located on the joints (less than nine

will be given special consideration by the Coast Guard), shall be observed at intervals not greater than 3 minutes during the test. The test shall be continued for at least 30 minutes to meet the requirements of § 164.008-2(b) or at least 60 minutes to meet the requirements of § 164.008-2(c). In either case, the test shall not be stopped before the maximum surface temperature rise values noted in subparagraph (2) of this paragraph have been reached. The observed temperature values will be used in determining the maximum temperature rises of the panel.

(2) Data from these tests shall be analyzed to determine the minimum thickness necessary to limit the temperature rise at any thermocouple on the nonfire exposed surface, including the joint, to 405° F. and an average rise of not more than 250° F. above the original temperature at the end of 15 minutes. Where failure is due to excessive temperature rise on the joint, consideration will be given to alternate joint construction.

9. Section 164.008-4 is amended by revising the text thereof but Figure No. 164.008-4(c) (1) is retained in effect without change, and the text reads as follows:

#### § 164.008-4 Procedure for approval.

(a) If a manufacturer desires to have a bulkhead panel approved, a request shall be presented to the Commandant of the Coast Guard together with the following:

(1) If the material has already been approved as an "Incombustible Material" under Subpart 164.009, the approval number of the material shall be indicated. If the material has not been approved as an "Incombustible Material," the procedure set forth in Subpart 164.009 shall be followed; and such approval shall be obtained prior to submittal under this specification.

(2) The description and trade name of the bulkhead panel.

(3) A statement of the composition of the material and the percentage of each component.

(4) A sample of the material at least 1 foot square in each thickness and density of the material as manufactured.

(5) The range of thicknesses and/or densities in which it is proposed to manufacture or use the material, together with any information or recommendations the manufacturer may have as to maximum or minimum thicknesses or densities.

(6) The location of the place where the material will be manufactured.

(b) The above information will be examined by the Coast Guard when the material has been approved as an "Incombustible Material," and it is indicated that the material is in all other respects suitable for testing, the manufacturer will be so advised. The recommended thickness and density of the panel for the fire resistance and integrity test and the estimated cost of the tests will be specified at this time.

(c) If the material is indicated as being suitable for testing, the manufacturer shall submit the samples required

by subparagraph (1) of this paragraph to the Fire Research Section of the National Bureau of Standards, Washington, D.C., 20234, and shall advise the Coast Guard of the shipment.

(1) One representative panel of the material having a surface approximately 50 square feet and a height of 8 feet containing at least one vertical joint, located at approximately ⅓ panel width from one edge (20-24 inches). A sketch of the furnace is shown in Figure 164.008-4(c) (1). If the manufacturer desires to submit the panel in thickness or size other than that recommended, prior approval shall be obtained from the Commandant. The manufacturer shall supply any labor required for fabrication of the panel and for attaching the panel to the frame for testing, as necessary.

(d) At this time the manufacturer shall submit to the Coast Guard the following:

(1) A statement that the material as offered for testing and as described pursuant to § 164.008-4(a) (3) is completely representative of the product which will be manufactured and sold under U.S. Coast Guard approval if such approval is granted.

(2) A commitment from the manufacturer that he will reimburse the National Bureau of Standards for the cost of the tests or review when billed by them.

(3) If the manufacturer desires to witness the test, he should so indicate at this time.

(e) The National Bureau of Standards will then be authorized to conduct the test noted in § 164.008-3(b) and four copies of the report will be submitted to the Coast Guard.

(f) A copy of the report will be forwarded to the manufacturer, and he will be advised if his material is approved under this Subpart. If approved, any stipulations of the approval will be specified. This information will be published in the FEDERAL REGISTER, and a Certificate of Approval will be issued to the manufacturer.

(g) If the manufacturer desires to have the tests conducted at some laboratory other than the National Bureau of Standards, this information shall be supplied at the time of initial contact with the Coast Guard. If the proposed laboratory is acceptable to the Coast Guard, the manufacturer will be so advised and any special testing requirements together with an estimated cost of expenses incurred by the National Bureau of Standards for their review will be specified at this time. Payment will be made as noted in subparagraph (d) (2) of this section. The Coast Guard shall be notified in advance of the date of the test so that a representative may be present. The laboratory shall submit four copies of a detailed test report to the Coast Guard, together with representative samples of the material taken before and after testing. The test report and samples will be examined by the National Bureau of Standards for compliance with this Subpart. The test report shall include the following information together with any other pertinent data:

(1) Description of the panel tested giving size, thickness, density, detail of

joint and method of assembling in furnace.

(2) Complete time-temperature data consisting of a numerical time-temperature table for each furnace and panel thermocouple together with the initial temperature reading of each thermocouple.

(3) A log setting forth the observer's notes relative to deflections, cracking, smoke and gas emission, glow, flame emission, and any other important data. The time of each observation should be noted.

(4) Photographs of both sides of the panel before and after testing.

Subpart 164.009, consisting of §§ 164.009-1 to 164.009-4, inclusive, is amended to read as follows:

#### Subpart 164.009—Incombustible Materials for Merchant Vessels

- Sec.  
164.009-1 Applicable specifications.  
164.009-2 Material.  
164.009-3 Inspection and testing.  
164.009-4 Procedure for approval.

**AUTHORITY NOTE:** The provisions of this Subpart 164.009 interpret or apply R.S. 4417, as amended 4417a, as amended, 4418, as amended, 4426, as amended, 4488, as amended, sec. 5, 49 Stat. 1384, as amended, sec. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 45 U.S.C. 391, 391a; 392, 404, 481, 369, 367, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-38, Oct. 26, 1959, 24 F.R. 8957.

#### § 164.009-1 Applicable specifications.

(a) There are no other specifications applicable to this subpart.

#### § 164.009-2 Material.

(a) Incombustible materials may be of any type such as board, sheet, loose material, etc.

(b) The following materials will be considered as automatically meeting the requirements of this subpart. No tests will be required, and no specific approvals will be granted.

(1) Sheet glass, block glass, clay, ceramics, or uncoated glass fibers.

(2) All metals except magnesium or magnesium alloys.

(3) Portland cement, gypsum, or magnesite concretes with aggregates of only sand, gravel, asbestos fibers, expanded vermiculite, expanded or vesicular slags, diatomaceous silica, perlite, or pumice.

(4) Asbestos millboard meeting the requirements of Federal Specification HH-M-351a. This specification may be purchased from the Business Services Center, General Services Administration, Washington, D.C., 20407.

(5) Woven asbestos cloth meeting the requirements of ASTM Standard Specification D-1571, Grades AAA and AAAA. This standard may be purchased from the American Society for Testing Materials, 1916 Race Street, Philadelphia, Pa., 19103.

(6) Woven or knitted glass fabric containing not more than 2.5 percent lubricant.

(c) All materials not listed in paragraph (b) of this section shall be checked for density, content of moisture and volatile matter, and shall pass the heated

tube test for incombustibility noted in § 164.009-3(d).

(d) Fibrous-type insulation materials shall pass the reheating test noted in § 164.009-3(e) in addition to the heated tube test.

#### § 164.009-3 Inspection and testing.

(a) *Tests.* All tests shall be conducted at the National Bureau of Standards or other laboratories designated by the Coast Guard. Tests conducted shall include density, moisture and volatile content, and heated tube tests.

(b) *Density measurement.* (1) The smallest sample for density measurements of solid materials shall be 12 by 12 inches by the submitted thickness. Length and width measurements shall be made to the nearest  $\frac{1}{32}$  inch, thickness to the nearest 0.01 inch, allowance being made of any nonflatness of the major surfaces of the specimen. Measurements of dimensions of fibrous insulations shall be made to the nearest  $\frac{1}{16}$  inch on a nominal 12-inch cube assembled from sheets of the thickness received. The average of at least four measurements of each dimension shall be reported. The weight shall be determined with a scale of balance sensitive and accurate to 0.5 percent or less of the total weight. The dimensional and weight measurements shall not be made until the sample has been conditioned one week, or longer if required to reach constant weight, in an atmosphere at  $73 \pm 2^\circ \text{F}$ ., and  $50 \pm 5$  percent relative humidity.

(c) *Content of moisture and volatile matter.* (1) Transfer a weighed sample cut from the density specimen, previously conditioned to equilibrium at  $73 \pm 2^\circ \text{F}$ . and  $50 \pm 5$  percent relative humidity, to a previously weighed wide-mouth weighing bottle provided with a glass stopper. Remove the stopper and heat the bottle and sample at  $105 \pm 5^\circ \text{C}$ . for 4 hours, insert the stopper, cool, and weigh. Calculate the content of moisture and other volatiles as percent of the final dry weight of the sample.

(d) *Heated tube test.* (1) Three specimens, each  $1\frac{1}{2}$  by  $1\frac{1}{2}$  by 2 inches long shall be prepared from the sample submitted and dried at a temperature of  $105 \pm 5^\circ \text{C}$ . for 4 hours before the test. Each specimen shall be assembled using a sufficient number of layers to obtain the prescribed  $\frac{1}{2}$ -inch thickness, except that thin flexible materials may be rolled into a cylindrical shape approximately 2 inches long and  $1\frac{1}{2}$  inches in diameter or made into a solid 2 by  $1\frac{1}{2}$  by  $1\frac{1}{2}$  inches by layers. A hole which will accommodate a thermocouple of 0.020 inch wire shall be made to the center of the specimen into which a thermocouple of the above size shall be inserted to register the internal temperature. An additional thermocouple of the same size shall be located on the surface of the specimen centered on one side to show the temperature at the surface for indicating any difference in temperature recorded by the two thermocouples.

(2) The test shall be conducted in an apparatus similar to that described in Figure 164.009-3(d). This apparatus shall be capable of developing and maintaining a temperature of  $750^\circ \text{C}$ . in the heated tube.

(3) The heated tube shall be brought up to and maintained at a temperature of  $750^\circ \text{C}$ . as evidenced by a thermocouple of 0.020 inch wire which is inserted from the top of the heated tube and located 6 inches below the top of the heated tube. During the initial heating and during the test, an air flow of 0.1 cubic foot per minute shall be supplied from the bottom of the tube at standard atmospheric temperature and pressure. When the inserted thermocouple has reached a steady  $750^\circ \text{C}$ ., the temperature recorded by a thermocouple located at the wall of the heated tube and shown as T<sub>1</sub> on Figure 164.009-3(d) shall be noted and maintained throughout the test.

(4) When the heated tube has reached  $750^\circ \text{C}$ ., the inserted thermocouple shall be removed and the sample with thermocouples attached shall be suspended as rapidly as possible in the heated tube with its long axis vertical by a 0.020 inch diameter steel wire around the outside of the specimen. The bottom of the suspended specimen shall be 7 inches below the top of the inner tube. Energize the platinum wire to operate at an apparent temperature of  $800 \pm 50^\circ \text{C}$ . Readings of the temperature at the three thermocouples shall be taken and recorded not less than every 15 seconds or greater than every minute and the test shall continue for 15 minutes unless failure occurs before that time.

(5) In order to pass this test, each of the three specimens shall meet the conditions noted below for the duration of the 15-minute interval. For fibrous-type insulation materials these conditions will only be applicable to the last 13 minutes of the 15-minute interval.

(i) The specimen shall not flame, except that flame from painted or paper coated surfaces may be permitted for not longer than 30 seconds during the first 2 minutes.

(ii) The specimen shall not glow brighter than the walls of the heated tube. If glowing at all, the glow shall not increase when the specimen is removed from the heated tube.

(iii) The temperatures as indicated by the thermocouples located at the center and on the surface of the specimen shall not rise more than  $20^\circ \text{C}$ . above the heated tube air temperature.

(iv) During the test, the specimen shall not give off flammable vapors in such quantity so as to be ignited by the energized platinum wire.

(e) *Reheating test.* (1) Two specimens of the material, each 12 by 12 by 6 inches, shall be prepared so that when placed one on top of the other they form a cube 1 foot on a side. A piece of steel weighing approximately  $\frac{1}{2}$  pound consisting of a  $1\frac{1}{4}$ -inch length of  $1\frac{1}{4}$ -inch shafting with a thermocouple attached to its side shall be heated uniformly throughout its mass to more than  $900^\circ \text{C}$ . The temperature of the steel shall be observed as it cools in room air, free of drafts and it shall be inserted between the two specimens in the center of the faying surfaces when the surface temperature reaches  $900^\circ \text{C}$ . In the case of rigid or semirigid type materials, hollows shall be cut in the two faying surfaces in the shape of the shaft so that contact of the two surfaces will be made.

Three thermocouples shall be installed between the two faying surfaces at 1, 2, and 3 inches from the shafting, and a 1/2 inch steel plate 1 foot square shall be placed on top of the cube to insure a uniform pressure between the two specimens. Readings of the three thermocouples between the specimens and the thermocouple attached to the shafting shall be made at intervals not greater than 5 minutes for the first 2 hours, and 10 minutes thereafter. The test shall continue until such time as the temperatures indicated by all four thermocouples are less than 200° C., or until it is indicated that the material has failed to pass the test.

(2) In order to pass this test, all of the following conditions shall be met:

(i) There shall be no indication of flame or glow on the exterior of the cube during the test.

(ii) The shafting temperature at any reading shall not be greater than at any previous reading.

(iii) None of the three thermocouples between the faying surfaces shall at any instance indicate a temperature of more than 10° C. above the temperature of the shafting at that time.

(f) *Spot check tests.* (1) Incombustible materials are not inspected at regularly scheduled factory inspections; however, the Commander of the Coast Guard District in which the plant is located, may detail a marine inspector at any time to visit any place where incombustible materials are manufactured to conduct any inspections or examinations deemed advisable and to select representative samples for further examination, inspection, or tests. The marine inspector shall be admitted to any place where work is done on incombustible materials or component materials.

(2) Manufacturers of approved incombustible materials shall maintain quality control of materials used, manufacturing methods, and the finished product so as to meet the requirements of this specification, and any other conditions outlined on the certificate of approval, but the Coast Guard also reserves the right to make spot-check tests of approved incombustible materials at any time on samples selected by a marine inspector at the place of manufacture or samples obtained from other sources in the field. The manufacturer will incur no expense for such tests, but the results shall be binding upon the approval of his product. The manufacturer will be advised in advance of the time of testing of the samples selected and may witness the tests if he so desires.

§ 164.009-4 Procedure for approval.

(a) If a manufacturer desires to have an incombustible material approved, a request shall be presented to the Commandant of the Coast Guard together with the following:

(1) The trade name of the material.  
 (2) A sample of the material at least 1 foot square in each thickness and density of the material as manufactured.

(3) The range of thicknesses and/or densities in which it is proposed to manufacture or use the material together with any information or recommendation the

manufacturer may have as to maximum or minimum thicknesses or densities.

(4) A statement of the composition of the material and the percentage of each component in each density.

(5) The location of the place where the material will be manufactured.

(b) The information and samples furnished pursuant to paragraph (a) of this section will be examined by the Coast Guard. If the material appears to be suitable for testing, the manufacturer will be so advised. The size of the samples to be submitted for testing and the cost will be specified at this time.

(c) If the material is indicated as being suitable for testing the manufacturer shall submit the following to the Coast Guard:

(1) Samples of the material as specified.

(2) A statement that the material as offered for testing and as described pursuant to paragraph (a)(4) of this section is completely representative of the product which will be manufactured and sold under U.S. Coast Guard approval if such approval is granted.

(3) If the manufacturer desires to witness the test, he should so indicate at this time.

(4) A commitment that he will reimburse the National Bureau of Standards for the cost of the tests when billed by them.

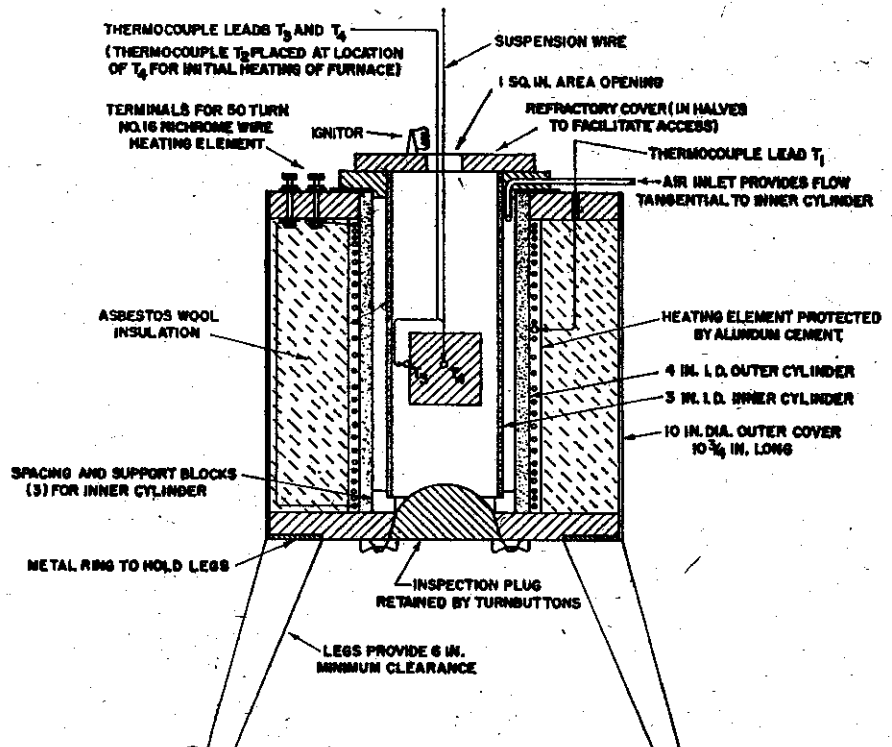
(d) The National Bureau of Standards will then be authorized to conduct the tests noted in § 164.009-3 and four copies of the report will be submitted to the Coast Guard.

(e) A copy of the test report will be forwarded to the manufacturer, and he will be advised if his material is approved under this subpart. If approved, any stipulations of the approval will be specified. This information will be published in the FEDERAL REGISTER, and an Approval Certificate will be issued to the manufacturer.

(f) If the manufacturer desires to have the tests conducted at some laboratory other than the National Bureau of Standards, this information shall be supplied at the time of the initial contact with the Coast Guard. If the proposed laboratory is acceptable to the Coast Guard, the manufacturer will be so advised and any special testing requirements will be made at this time. The Coast Guard shall be notified in advance of the date of the test so that a representative may be present. The laboratory shall submit four copies of the test report to the Coast Guard together with representative samples of the material taken before and after testing. The test report and samples will be examined by the National Bureau of Standards for compliance with this subpart. The test report shall include the following information together with any other pertinent data:

(1) Complete time-temperature data for each thermocouple for both the heated tube and reheating tests.

(2) A log setting forth the observer's notes relative to smoke or gas emission, glow, flame emission, and any other important data. The time of each observation should be noted.



SECTION THROUGH FURNACE

- T<sub>1</sub>—Auxiliary Thermocouple.
- T<sub>2</sub>—Heated Tube Temperature.
- T<sub>3</sub>—Internal Temperature of Specimen.
- T<sub>4</sub>—Surface Temperature of Specimen.

### Subpart 164.012—Interior Finishes for Merchant Vessels

11. The authority note for Subpart 164.012 is amended to read as follows:

**AUTHORITY NOTE:** The provisions of this Subpart 164.012 interpret or apply R.S. 4417, as amended, 4417a, as amended, 4418, as amended, 4426, as amended, 4488, as amended, sec. 5, 49 Stat. 1384, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 54 Stat. 347, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 391, 391a, 392, 404, 491, 489, 367, 1333, 390b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-33, Oct. 26, 1959, 24 F.R. 8857.

### Subpart 164.013—Foam, Unicellular Polyethylene (Buoyant, Slab, Slitted Trigonal Pattern)

12. The heading for Subpart 164.013 is amended to read as set forth above.

#### SUBCHAPTER B—NAUTICAL SCHOOLS

### PART 167—PUBLIC NAUTICAL SCHOOL SHIPS

1. The authority for Part 167 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 167 issued under R.S. 4405, as amended, 4482, as amended; 46 U.S.C. 378, 416. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4433, as amended, 4450, as amended, 4453, as amended, 4488, as amended, secs. 1 and 2, 49 Stat. 1544, 1545, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675, sec. 8, 75 Stat. 403; 46 U.S.C. 391, 392, 404, 411, 239, 222, 491, 489, 363, 367, 390b, 50 U.S.C. 198, 33 U.S.C. 1007; E.O. 11239; Treasury Department Orders 120 July 31, 1950, 15 F.R. 6521; 167-14, Nov. 26, 1954, 19 F.R. 8026; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5659; 167-33, Oct. 26, 1959, 24 F.R. 8857; 167-46, Nov. 6, 1961, 26 F.R. 10609.

### Subpart 167.45—Special Firefighting and Fire Prevention Requirements

2. Section 167.45-1(a) is amended by adding at the end thereof a new subparagraph (9) reading as follows:

§ 167.45-1 Steam and inert-gas fire extinguishing systems.

(a) *General requirements.* . . .

(9) Regarding the limitations on the use of steam smothering in subparagraph (2) of this paragraph, 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.

### Subpart 167.65—Special Operating Requirements

3. Subpart 167.65 is amended by inserting after § 167.65-50 a new § 167.65-55, which reads as follows:

§ 167.65-55 Posting placards containing instructions for launching and inflating inflatable liferafts.

(a) Every vessel equipped with inflatable liferafts shall have posted in

conspicuous places which are regularly accessible to the crew and/or passengers, approved placards containing instructions for launching and inflating inflatable liferafts for the information of persons on board. The number and location of such placards for a particular vessel shall be as determined 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.

#### SUBCHAPTER I—SMALL PASSENGER VESSELS (UNDER 100 GROSS TONS)

### PART 175—GENERAL PROVISIONS

#### Subpart 175.05—Application

§ 175.05-1 [Amended]

1. Section 175.05-1 *Vessels subject to the requirements of this subchapter* is amended by changing in paragraph (a) (1), footnote 6 to Table 175.05-1(a), and paragraph (d) the phrase from "International Convention for the Safety of Life at Sea, 1948," to "International Convention for Safety of Life at Sea, 1960."

The statutory provisions interpreted or applied cited after § 175.05-1(a)(1) and (d) are amended to read as follows:

(Sec. 4, 70 Stat. 153; 46 U.S.C. 390c; E.O. 11239; 3 CFR 1965 Supp.)

#### PART 176—INSPECTION AND CERTIFICATION

1. Subpart 176.35, consisting of §§ 176.35-1 through 176.35-10, is amended by revising the heading and text to read as follows:

#### Subpart 176.35—International Convention for Safety of Life at Sea, 1960

- Sec.  
176.35-1 Vessels subject to requirements.  
176.35-5 International voyage.  
176.35-10 Voyage between continental United States and Hawaii or Alaska or between Hawaii and Alaska.  
176.35-15 Passenger Ship Safety Certificate.  
176.35-20 Exemption Certificate.  
176.35-25 Posting of Convention certificates.  
176.35-30 Duration of certificates.

**AUTHORITY:** The provisions of this Subpart 176.35 interpret or apply E.O. 11239.

§ 176.35-1 *Vessels subject to requirements.*

(a) Except as otherwise provided in this subpart, all mechanically propelled vessels registered in the United States or the Commonwealth of Puerto Rico, which carry more than 12 passengers on an international voyage as defined in § 176.35-5 or § 176.35-10 shall be in compliance with the applicable requirements of the International Convention for Safety of Life at Sea, 1960.

(b) The International Convention for Safety of Life at Sea, 1960, does not apply to vessels "solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight

line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63d Meridian."

(c) In accordance with Regulation 4, Chapter I (General Provisions) of the International Convention for Safety of Life at Sea, 1960, a vessel which is not normally engaged on an international voyage but which, in exceptional circumstances, is required to undertake a single international voyage may be exempted by the Commandant from any of the requirements of the Regulations of the Convention: *Provided*, That it complies with safety requirements which are adequate in his opinion for the voyage which is to be undertaken.

(d) In accordance with Regulation 1(c), Chapter II (Construction) of the International Convention for Safety of Life at Sea, 1960, the Commandant may, if he considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of Chapter II of this Convention unreasonable or unnecessary, exempt from those requirements individual vessels or classes of vessels which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.

(e) In accordance with Regulation 3 (a), Chapter III (Lifesaving Appliances, etc.) of the International Convention for Safety of Life at Sea, 1960, the Commandant, if he considers that the sheltered nature and conditions of the voyage are such as to render the application of the full requirements of Chapter III of this Convention unreasonable or unnecessary, may to that extent exempt from the requirements of Chapter III individual vessels or classes of vessels which, in the course of their voyage, do not go more than 20 miles from the nearest land.

#### § 176.35-5 International voyage.

(a) The term "international voyage" as used in this subchapter shall have the same meaning as that contained in Regulation 2(d), Chapter I of the International Convention for Safety of Life at Sea, 1960, i.e., "International voyage" means a voyage from a country to which the present Convention applies to a port outside such country, or conversely; and for this purpose every territory for the international relations of which a Contracting Government is responsible or for which the United Nations are the administering authority is regarded as a separate country."

(b) For the purposes of this subchapter vessels shall not be considered as being on an "international voyage" when "solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63d Meridian."

(c) For the purposes of this subchapter the term "territory" as used in paragraph (a) of this section shall be considered to include the Commonwealth of Puerto Rico, the Canal Zone, all possessions of the United States, and all lands held by the United States under a protectorate or mandate.

(d) Any Officer in Charge, Marine Inspection, can furnish information as to the countries to which the Convention applies. These countries include the continental United States, Alaska, Hawaii, and the Commonwealth of Puerto Rico.

**§ 176.35-10 Voyage between Continental United States and Hawaii or Alaska or between Hawaii and Alaska.**

(a) Although voyages between the continental United States and Hawaii or Alaska and voyages between Hawaii and Alaska are not "international voyages" under the provisions of the International Convention for Safety of Life at Sea, 1960, such voyages are similar in nature and shall be considered as "international voyages" and subject to the same requirements for the purposes of this subchapter.

**§ 176.35-15 Passenger Ship Safety Certificate.**

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

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

**§ 176.35-20 Exemption Certificate.**

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

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

**§ 176.35-25 Posting of Convention certificates.**

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

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

**§ 176.35-30 Duration of certificates.**

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

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

(c) The Passenger Ship Safety Certificate may be withdrawn, revoked, or suspended at any time when it is determined

the vessel is no longer in compliance with applicable requirements. (See § 2.01-70 of this chapter for procedures governing appeals.)

**PART 180—LIFESAVING EQUIPMENT**

1. The authority for Part 180 is amended to read as follows:

**AUTHORITY:** The provisions of this Part 180 issued under R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152; 46 U.S.C. 375, 416, 390b. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4421, as amended, 4426, as amended, 4453, as amended, 4488, as amended, 46 U.S.C. 391, 392, 399, 404, 435, 481. Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5859; 167-38, October 26, 1959, 24 F.R. 8857. Other statutory provisions interpreted or applied are cited to text in parentheses.

**Subpart 180.05—General Provisions Pertaining to Lifesaving Equipment**

**§ 180.05-1 [Amended]**

2. Section 180.05-1 *Equipment of an approved type* is amended by deleting from subparagraph (b) (6) reference to specification Subparts identified as "160.003, 160.004."

(R.S. 4491, as amended, sec. 6, 17, 54 Stat. 164, as amended, 166, as amended; 46 U.S.C. 489, 526e, 526p. Treasury Department Order 120, July 31, 1950, 15 F.R. 6321)

**Subpart 180.25—Life Preservers**

3. Section 180.25-1 is amended to read as follows:

**§ 180.25-1 Type required.**

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

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

(c) Cork and balsa wood life preservers, constructed in accordance with the applicable provisions of Subpart 160.003 or 160.004 and manufactured as approved life preservers prior to July 1, 1965, may be accepted as new or replacement equipment required by this subchapter if such life preservers are 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 passenger ships on an international voyage, constructed or contracted for on or after May 26, 1965.

**Subpart 180.30—Ring Life Buoys and Waterlights**

4. Section 180.30-5 is amended by adding a new paragraph (d) reading as follows:

**§ 180.30-5 Number and size required.**

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

(E.O.-11289; 3 CFR, 1965 Supp.)

**PART 185—OPERATIONS**

**Subpart 185.05—Penalties**

Section 185.05-1 (b) is amended to read as follows:

**§ 185.05-1 General.**

(b) In addition to the foregoing, any licensed or certificated personnel committing an act of misbehavior, negligence, unskillfulness, endangering life, willful violation of marine safety statutes or regulations or requirements thereunder, and incompetency shall be subject to proceedings under the provisions of R.S. 4450, as amended (46 U.S.C. 239), and regulations thereunder (Part 137 of this chapter) with respect to suspension or revocation of license or certificate.

**Subpart 185.25—Preparations for Emergencies**

2. Subpart 185.25 is amended by inserting after § 185.25-5 a new § 185.25-7, which reads as follows:

**§ 185.25 Posting placards containing instructions for launching and inflating inflatable liferafts.**

(a) Every vessel equipped with inflatable liferafts shall have posted in conspicuous places which are regularly accessible to the crew and/or passengers, approved placards containing instructions for launching and inflating inflatable liferafts for the information of persons on board. The number and location of such placards for a particular vessel shall be as determined necessary by the Officer in Charge, Marine Inspection.

(b) Under the requirements contained in § 160.051-6(c)(1) of Subpart 160.051 in Subchapter Q (Specifications) of this chapter, the manufacturer of approved inflatable liferafts is required to provide approved placards containing such instructions with each liferaft.

(R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152; 46 U.S.C. 375, 416, 390b. Interpret or apply R.S. 4417, as amended, 4418, as amended, 4426, as amended, 4453, as amended; 46 U.S.C. 391, 392, 404, 435. Treasury Department Orders 120, July 31, 1950, 15 F.R. 6521; 167-20, June 18, 1956, 21 F.R. 4894; CGFR 56-28, July 24, 1956, 21 F.R. 5859; 167-38, October 26, 1959, 24 F.R. 8857)

Dated: September 1, 1965.

[SEAL] E. J. ROLAND,  
Admiral, U.S. Coast Guard,  
Commandant.

[F.R. Doc. 65-9442; Filed, Sept. 7, 1965; 8:45 a.m.]