

LINE, INC., through the acquisition by CHEMICAL EXPRESS COMPANY. Applicants' representative: Wm. E. Livingstone III, 4555 First National Bank Building, Dallas, Tex. 75202. Operating rights sought to be controlled: *Asphaltic roofing materials*, as a common carrier, over irregular routes, from Stroud, Okla., and points within 1 mile thereof, to Wichita, Kans., and points in Kansas within 200 miles of Wichita; *asphaltic roofing materials*, in rolls, containers, and bundles, and *liquid asphalt and asphalt and asphaltic products*, in containers, from Stroud, Okla., and points within 1 mile thereof, to certain specified points in Arkansas; *liquid asphalt*, from Stroud, Okla., and points within 1 mile thereof, to points in Kansas within 200 miles of Stroud, Okla.; *liquid asphalt and asphaltic products*, in bulk, in tank vehicles, from Stroud, Okla., and points within 1 mile thereof, and Cushing, Okla., to points within 150 miles of Fort Smith, Ark., including Fort Smith (except points located in Missouri), with restriction; *liquid asphalt*, in bulk, in tank vehicles, from Stroud and Cushing, Okla., to certain specified points in Missouri, from Tulsa, Okla., to certain specified points in Missouri; *liquid asphalt*, in bulk, from Okmulgee, Okla., to points in Missouri; *cement*, in bulk, from Ada, Okla., to points within 200 miles thereof in Arkansas, Kansas, Missouri, and Texas, from Dewey, Okla., to points within 200 miles thereof in Arkansas, Kansas, and Missouri, with restriction; from Woodward, Okla., to certain specified points in Kansas, and points in Texas;

Cement, in bags or packages, from Dewey, Okla., to points in Kansas, Missouri, and Arkansas, within 200 miles of Dewey, from Ada, Okla., to points in Kansas, Missouri, and Arkansas within 200 miles of Ada, with restriction; *cement*, from Ada, Okla., to points in Arkansas and Texas; between points in Arkansas and Oklahoma, with restriction; *cement*, in bulk and packages, from

Ada, Okla., to points in Arkansas; *dry cement*, from the plantsite of the Oklahoma Cement Co. at or near Pryor, Okla., to points in Kansas (with exception), certain specified points in Arkansas and Missouri, from Dewey, Okla., to points in Kansas, Missouri, and Arkansas, from the plantsite of the Oklahoma Cement Co. at or near Pryor, Okla., to points in Shannon and Oregon Counties, Mo., from Tulsa, Okla., to points in Kansas, Missouri, and Arkansas, and certain specified points in Texas, between certain specified points in Texas, with restriction; from the plantsite of Oklahoma Cement Co., near Pryor, Okla., to points in Texas, from Muskogee, Okla., to points in Arkansas, Kansas, and Missouri; *dry cement*, in bulk, in tank vehicles, from Ada and Dewey, Okla., to points in Kansas and Texas, from Fredonia, Kans., to points in Texas, between points in Oklahoma, Kansas, and Texas, with restriction; *dry cement*, in containers, from Ada, Okla., to points in Kansas and Texas; *lime*, either packaged or in bulk, from the plantsite of the St. Clair Lime Co. in or near Sallisaw, Okla., to points in Kansas, certain specified points in Missouri, Arkansas, Texas, and also including service at the Pine Bluff, Ark., Arsenal, points in the Dallas and Fort Worth, Tex., commercial zones, and points in the Little Rock-North Little Rock, Ark., commercial zone, from the site of the St. Clair Lime Co. plant, about 3 miles north of Marble City, Okla., to points in Kansas, certain specified points in Missouri, Arkansas, Texas, and also including service at the Pine Bluff, Ark., Arsenal, points in the Dallas and Fort Worth, Tex., commercial zones, as defined by the Commission, and points in the Little Rock-North Little Rock, Ark., commercial zone, as defined by the Commission;

Dry fertilizer, in bulk, from Bartlesville, Okla., to points in Arkansas, Kansas, and Missouri; *dry fertilizer*, in bags, from Bartlesville, Okla., to points in Arkansas, points in Kansas (with

exception) and points in Missouri (with exception); *fly ash*, from the site of the Montrose Power Plant of the Kansas City Power and Light Co., located at or near La Due (Henry County), Mo., to points in Arkansas and Oklahoma; *alumina*, calcined and hydrated, in bulk, from Bauxite, Ark., to points in Oklahoma and Texas (except Houston, Tex., and points within 50 miles thereof); and *sand*, from points in Arkansas, to points in Kansas, Missouri, and Oklahoma, from Mill Creek, Okla., to Fort Smith and El Dorado, Ark., and certain specified points in Kansas, Louisiana, and Texas. CHEMICAL EXPRESS COMPANY holds no authority from this Commission. However, it is affiliated with CEMENT TRANSPORTS, INC., 1200 Simons Building, Dallas, Tex. 75201, which is authorized to operate as a common carrier in Texas, New Mexico, Arkansas, Louisiana, Oklahoma, Colorado, Kansas, Missouri, Mississippi, and Tennessee; CEMENT EXPRESS, INC., 1200 Simons Building, Dallas, Tex. 75201, which is authorized to operate as a common carrier in Texas, New Mexico, Oklahoma, Arkansas, Louisiana, Colorado, Kansas, and Alabama; SMITH TRANSIT, INC., 1200 Simons Building, Dallas, Tex. 75201, which is authorized to operate as a common carrier in Texas, Alabama, Arkansas, Kansas, Louisiana, Mississippi, Missouri, New Mexico, Oklahoma, Arizona, Utah, Georgia, Illinois, Indiana, Ohio, North Carolina, South Carolina, Wisconsin, Iowa, Nebraska, Oregon, Tennessee, California, Florida, Michigan, Washington, Nevada, North Dakota, Idaho, South Dakota, Minnesota, and Wyoming. Application has not been filed for temporary authority under section 210a(b).

By the Commission.

[SEAL]

H. NEIL GARSON,
Secretary.

[F.R. Doc. 69-12887; Filed, Oct. 28, 1969;
8:48 a.m.]

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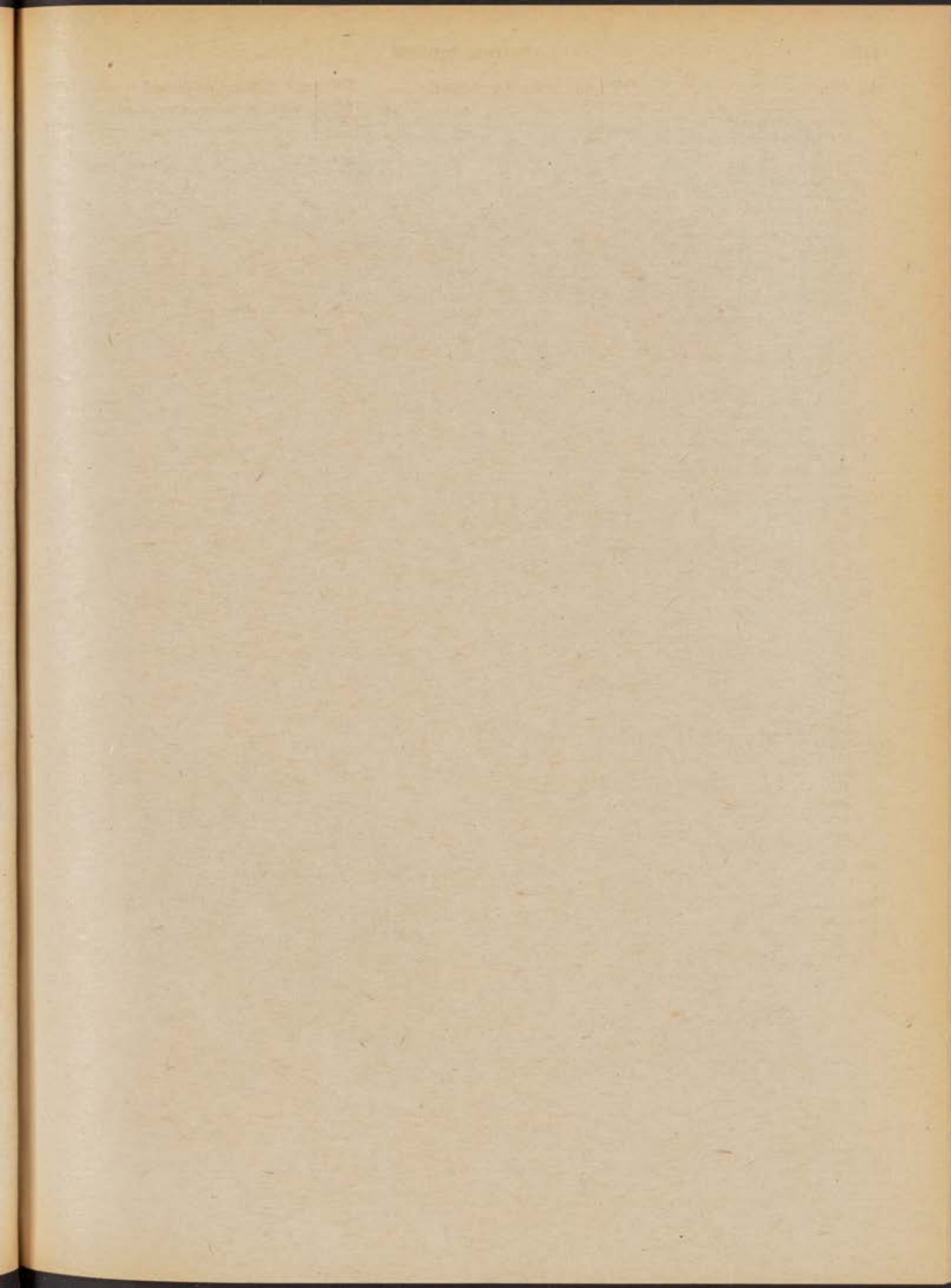
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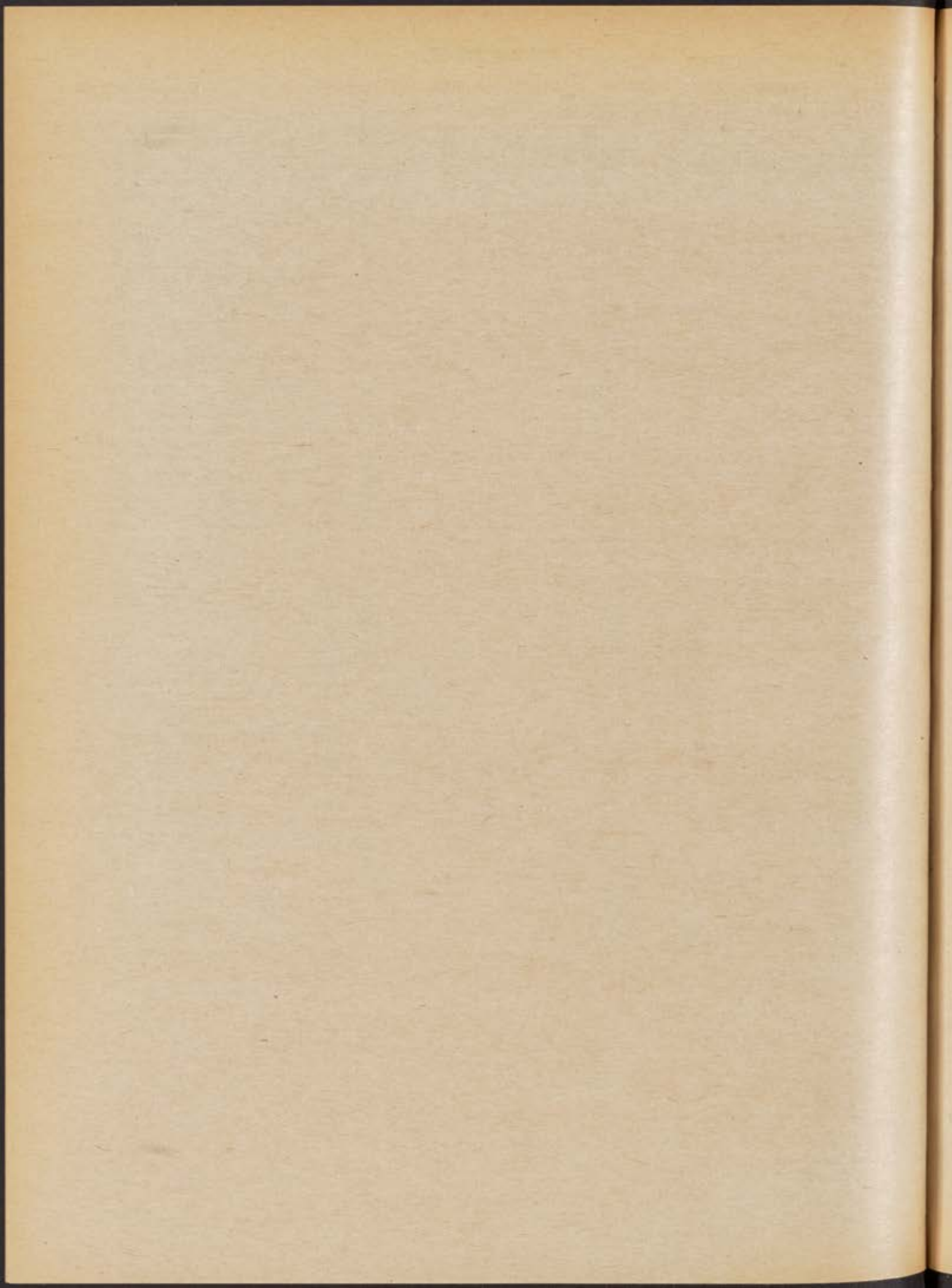
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FEDERAL REGISTER

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Wednesday, October 29, 1969 • Washington, D.C.

PART II

DEPARTMENT OF
TRANSPORTATION

COAST GUARD

•

Miscellaneous Amendments
to Chapter



Title 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of Transportation

[CGFR 69-89]

MISCELLANEOUS AMENDMENTS TO CHAPTER

1. A notice of proposed rule making was published in the *FEDERAL REGISTER* of February 7, 1969 (34 F.R. 1831), and in the Merchant Marine Council Public Hearing Agenda dated March 20, 1969 (CG-249). The proposed amendments were identified as Items PH 1-69 to PH 9-69, inclusive. Item PH 10-69 was published in the *FEDERAL REGISTER* of February 15, 1969 (34 F.R. 2254). The Merchant Marine Council held a public hearing on March 24, 1969, in Washington, D.C., on these 10 items in accordance with the terms of the notices. Interested persons were given the opportunity to submit written comments and to make oral comments regarding all the proposed amendments at the public hearing. At the conclusion of the public hearing the Council at an executive session held on March 24 and 25, 1969, duly considered all the proposed amendments and the comments submitted.

2. This is the first of a series of documents which concern the proposals considered by the Merchant Marine Council at the public hearing held on March 24, 1969. Specifically, this document concerns the proposals designated as Items PH 5-69, PH 9a-69 and that part of Item PH 4a-69 which concerns Title 33, Code of Federal Regulations. The second document concerns the proposals designated as Items PH 2-69, PH 3-69, PH 4b- and 4c-69, PH 6a-69, PH 8-69, PH 9b-69, PH 10-69 and that part of PH 4a-69 which involve amendments to Title 46, Code of Federal Regulations. These two documents are being published in the *FEDERAL REGISTER* at about the same time. As explained in the second document, Item 6b-69 is being withdrawn. The only items not appearing in either of these two documents, Items PH 1-69 and PH 7-69, will appear in subsequent documents.

3. Item PH 4a-69, in general, proposed changes in the requirements for waterlights in various subchapters in titles 33 and 46. This document is concerned with the proposed amendments to Subchapter N (Artificial Islands and Fixed Structures on the Outer Continental Shelf) of Chapter I, Title 33. No comments were received on this aspect of the proposal and the Council recommended the adoption without change.

4. Item PH 5-69 proposed changes to Subchapter L (Security of Vessels and Waterfront Facilities) of title 33, concerning handling of explosives or other dangerous cargoes within or contiguous to waterfront facilities. No comments were received but minor editorial changes were made to the text, and the Council recommended that the proposal be adopted.

5. Item PH 9a-69 proposed changes to Subchapter D (Navigation Requirements for Certain Inland Waters) of title 33, to permit barges operating upon international and inland waters to display lights and shapes required by International Rule 5 (33 U.S.C. 1065). One comment, which supported the proposal, was received. Minor editorial changes were made to the text, and the Council recommended that the proposal be adopted.

6. Accordingly, after due consideration of all the relevant matter including the comments of the interested persons and the recommendations of the Merchant Marine Council, the Commandant U.S. Coast Guard has approved the amendments set forth below.

SUBCHAPTER D—NAVIGATION REQUIREMENTS FOR CERTAIN INLAND WATERS

PART 86—INTERPRETATIVE RULES—INLAND RULES

Subpart 86.05—Navigation Lights

1. Subpart 86.05 is amended by adding a new section, § 86.05-10, reading as follows:

§ 86.05-10 Navigational lights for barges traversing both international and inland waters.

Notwithstanding the provisions of § 80.16b of this chapter, every barge which shall have occasion during its voyage to operate upon waters to which the International Regulations for Prevention of Collisions at Sea pertain, may, for the duration of said voyage, display the navigational lights and shapes required by International Rule 5 (33 U.S.C. 1065).

(Sec. 2, 30 Stat. 102, as amended, sec. 633, 63 Stat. 545, sec. 6(b) (1), 80 Stat. 937; 33 U.S.C. 157, 14 U.S.C. 633, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

SUBCHAPTER L—SECURITY OF WATERFRONT FACILITIES

PART 126—HANDLING OF EXPLOSIVES OR OTHER DANGEROUS CARGOES WITHIN OR CONTIGUOUS TO WATERFRONT FACILITIES

§ 126.11 [Amended]

2. Section 126.11 is amended by changing the words "this part" in the fourth line to "§§ 126.15 and 126.16".

3. Section 126.15 is amended by revising paragraphs (c), (f), and (i) to read as follows:

§ 126.15 Conditions for designation as designated waterfront facility.

(c) *Welding or hot work.* Oxyacetylene or similar welding or burning or other hot work including electric welding or the operation of equipment is prohibited on waterfront facilities or on vessels moored thereto, during the handling, storing, stowing, loading, discharging, or transporting of explosives. Such work may not be conducted on waterfront facilities or vessels moored thereto while either the facility or vessel is handling, storing, stowing, loading, discharging,

ing, or transporting dangerous cargo without the specific approval of the Captain of the Port.

(f) *Rubbish and waste materials.* That the waterfront facility is free from rubbish, debris, and waste materials. Burning rubbish in an open fire on a waterfront facility is prohibited.

(i) *Heating equipment and open fires.* That heating equipment is safely installed and maintained in good operating condition; that adequate clearances to prevent undue heating of nearby combustible materials are maintained between heating appliances, chimneys, stove pipes, gas vents, or other heat producing elements, and any combustible materials of the floor, walls, partitions or roofs; that in general, clearances are such that continuous operation of the heat producing device at full capacity will not increase the temperature of nearby woodwork more than 90° above the ambient temperature; that, where necessary to prevent contact with movable combustible materials, heating appliances are enclosed or screened; that spark arresters are provided on chimneys or appliances burning solid fuel used in locations where sparks constitute a hazard to nearby combustible materials. Open fires or fires in barrels, drums, or similar apparatus are prohibited. (As a guide to safe installation of heating equipment, the appropriate chapters of the National Board of Fire Underwriters Building Code (current edition) are recommended.)

§ 126.27 [Amended]

4. Section 126.27 is amended by changing the heading to read "General permit for handling dangerous articles or substances in bulk or portable tanks", adding the words "in bulk or portable tanks" to follow the words "(other than designated dangerous cargo)" in the fifth line, and by amending paragraph (b) by changing the word "written" in the fourteenth line to "prior", by deleting the words "in containers" in paragraph (b) (3), and by adding a new paragraph (b) (7) to read as follows:

(7) *Bulk shipments of dangerous cargo considered to involve a particular hazard.* A specific list of such commodities which by virtue of their properties would create unusual hazard if released, is found in § 124.14(b) (1) of this chapter.

5. Section 126.29 is revised to read as follows:

§ 126.29 Supervision and control of dangerous cargo.

(a) *Authority.* The Captain of the Port is authorized to require that any transaction of handling, storing, stowing, loading, discharging, or transporting the dangerous cargo covered by this subchapter shall be undertaken and continued only under the immediate supervision and control of the Captain of the

Port or his duly authorized representative. In case the Captain of the Port exercises such authority, all directions, instructions, and orders of the Captain of the Port or his representative, not inconsistent with this part, with respect to such handling, storing, stowing, loading, discharging, and transporting; with respect to the operation of the waterfront facility; with respect to vessels handling, stowing, loading, or discharging of dangerous cargo at anchorages when the operations are under the immediate control and supervision of the Captain of the Port or his duly authorized representative; with respect to the ingress and egress of persons, articles, and things and to their presence on the waterfront facility or vessel; and with respect to vessels approaching, moored at, and departing from the waterfront facility, shall be promptly obeyed.

(b) *Reporting discharge of dangerous liquid commodities into the waters of the United States.* To enhance the safety of the port and to protect vessels, their cargo, and waterfront facilities therein, the discharge into the navigable waters of the United States of petroleum products, petroleum byproducts or other dangerous liquid commodities which may create a hazard or toxic condition in the port area will be immediately reported to the Captain of the Port or District Commander by the owner or master of the vessel from which the discharge occurred, or the owner or operator of a waterfront facility from which the discharge occurred.

§ 126.31 [Amended]

6. Section 126.31 is amended by changing the word "Commandant" in the 12th line to "District Commander".

(R.S. 4472, as amended, sec. 1, 40 Stat. 220, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 170, 50 U.S.C. 191, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

SUBCHAPTER N—ARTIFICIAL ISLANDS AND FIXED STRUCTURES ON THE OUTER CONTINENTAL SHELF

PART 144—LIFESAVING APPLIANCES

Subpart 144.01—Manned Platforms

7. Section 144.01-10(b) is revised to read as follows:

§ 144.01-10 Equipment for life floats.

(b) An approved electric waterlight, constructed in accordance with 46 CFR Subpart 161.001 or 161.010 of Subchapter Q (Specifications), shall be provided for each life float. Waterlights constructed in accordance with 46 CFR Subpart 161.001 of Subchapter Q shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition. The waterlight shall be attached to the life float by a lanyard not less than 1 fathom nor more than 2 fathoms in length. The waterlight shall be mounted in a bracket so that when the life float is launched the water light will pull free of the bracket.

8. Section 144.01-25(b) is revised to read as follows:

§ 144.01-25 Ring life buoys.

(b) An approved electric waterlight, constructed in accordance with 46 CFR Subpart 161.001 or 161.010 of Subchapter Q (Specifications), shall be provided for each ring life buoy. Waterlights constructed in accordance with 46 CFR Subpart 161.001 of Subchapter Q shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition. The waterlight shall be attached to the ring life buoy by a lanyard not less than 3 feet or more than 6 feet in length. The waterlight shall be mounted in a bracket near the ring life buoy so that when the ring life buoy is cast loose the waterlight will pull free of the bracket.

(Sec. 4, 67 Stat. 462, sec. 633, 63 Stat. 545, sec. 6(b) (1), 80 Stat. 937; 43 U.S.C. 1333, 14 U.S.C. 633, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

Effective date. These amendments shall become effective 30 days following the date of publication in the FEDERAL REGISTER.

Dated: October 23, 1969.

P. E. TRIMBLE,
Vice Admiral, U.S. Coast Guard,
Acting Commandant.

[F.R. Doc. 69-12836; Filed, Oct. 28, 1969;
8:45 a.m.]

Title 46—SHIPPING

Chapter I—Coast Guard, Department of Transportation

[CGFR 69-72]

MISCELLANEOUS AMENDMENTS TO CHAPTER

1. A notice of proposed rule making was published in the FEDERAL REGISTER of February 7, 1969 (34 F.R. 1831) and in the Merchant Marine Council Public Hearing Agenda dated March 20, 1969 (CG-249). The proposed amendments were identified as Items PH 1-69 to PH 9-69, inclusive. Item PH 10-69 was published in the FEDERAL REGISTER of February 15, 1969 (34 F.R. 2254). The Merchant Marine Council held a public hearing on March 24, 1969, in Washington, D.C., on these 10 items in accordance with the terms of the notices. Interested persons were given the opportunity to submit written comments and to make oral comments regarding all the proposed amendments at the public hearing. At the conclusion of the public hearing the Council at an executive session held on March 24 and 25, 1969, duly considered all the proposed amendments and the comments submitted.

2. This is the second of a series of documents which concern the amendments considered by the Merchant Marine Council at the public hearing held on March 24, 1969. The first document

concerns the proposals designated as Items PH 5-69, PH 9a-69, and that part of Item 4a-69 which involve amendments to Title 33, Code of Federal Regulations. These two documents are being published in the FEDERAL REGISTER at about the same time. Item 6b-69 is withdrawn. This item proposed to amend Table 45.15-97a of 46 CFR 45.15-97 to include vessels 750 to 1,000 feet in length engaged on Great Lakes voyages. It was proposed to apply to these vessels basic minimum summer freeboard requirements determined on the basis of Type B Table of the 1966 International Load Line Convention provided they satisfy four construction requirements listed in the proposed § 45.10-105. Subsequent to the instant public hearing a superseding notice of rule making was published in the FEDERAL REGISTER of June 24, 1969 (34 F.R. 9754). This second notice proposed to add to Part 45 of Subchapter E a new § 45.15-100 which specified the basic minimum summer freeboards for vessels from 440 to 1,000 feet in length engaged in Great Lakes voyages provided they satisfy five construction requirements listed in the proposed section. The minimum summer freeboards were also determined on the basis of the Type B Table of the 1966 International Load Line Convention. Since no adverse comments were received, the new § 45.15-100 was promulgated in the FEDERAL REGISTER of July 26, 1969 (34 F.R. 12342). This amendment renders the changes originally proposed in Item PH 6b-69 unnecessary. The present document concerns the proposals designated as Items PH 2-69, PH 3-69, PH 4b- and 4c-69, PH 6a-69, PH 8-69, PH 9b-69, PH 10-69, and that part of Item PH 4a-69 which concerns Title 46, Code of Federal Regulations. The only remaining items, Items PH 1-69 and PH 7-69, will appear in subsequent documents. The Merchant Marine Council has recommended changes in a number of the proposals as a result of its study of the proposals and the comments received from interested persons. The most significant changes recommended by the Council will be indicated in connection with each item.

3. Item PH 2-69 proposed miscellaneous amendments to Part 146 of Subchapter N (Dangerous Cargoes) to clarify the application of certain regulations and to reflect current terminology. The significant changes in the proposed amendments recommended by the Merchant Marine Council are as follows: (a) Withholding of the proposed change to § 146.23-100 which would have prohibited the use of glass carboys for corrosive liquids, (b) the insertion in § 146.27-32(a) of a reference to §§ 70.10-44 and 90.10-38 for the definition of a space, "specially suitable for vehicles", (c) changing the word "containers" to "tanks" in §§ 30.01-20, 70.05-25, 90.05-30, 146.02-30, and 188.05-30, (d) the insertion in § 146.06-14(a) of a requirement that the person preparing or supervising the preparation of the dangerous cargo manifest, rather than the master, shall certify to its truth and accuracy to the best of his knowledge and belief, (e)

the insertion in § 146.29-27(a) of a limitation that a stream of water from at least one hose should reach all areas of the weather deck.

4. (a) Items PH 3a-69 to 3d-69 proposed various amendments to Subchapter D (Tank Vessels). Item 3a related to deck foam systems; Item 3b to segregation of cargo; Item 3c to fire and lifeboat drills, and Item 3d to the installation of sacrificial anodes. The Merchant Marine Council recommended no changes in Items 3a, 3b, and 3c. As to Item 3d, the Council recommended a change in the wording of § 35.01-25(b) (4) relating to composition of aluminum alloy anodes. Item PH 3e-69 proposed an amendment to § 111.70-10(c) (2) (ii) relating to the installation of explosion-proof lights in tank vessels. The Council recommended approval of this proposal subject to the deletion of the provision that specific approval by the Commandant is required for the installation of approved explosion-proof lights.

(b) Item PH 4a-69 proposed changes in the requirements for floating electric waterlights. The Council recommended that the drop test required by § 161.010-5(b) (2) be changed from a height of 180 feet to 90 feet to make it consistent with the test required for the floating orange smoke signal by § 160.057-4(b) (1) (i). The Council also recommended that in §§ 33.15-20(j), 75.20-25(o), 94.20-25(o), 94.20-35(e), 192.20-25(o), and 192.20-35(e) the requirement that the water light be attached to the lifeboat or buoyant apparatus by a 12-thread manila lanyard be amended to permit an equivalent synthetic lanyard. Item PH 4b-69 proposed a revision in the specifications for structural insulation and bulkhead panels. The Merchant Marine Council recommended that § 164.007-7(a) (2), requiring a retest schedule for domestic products every 2 years and for foreign products every year be changed to 5 years and 2 years, respectively. Item PH 4c-69 proposed amendments to the specifications for orange smoke distress signals. The Council recommended that these proposals be adopted without any change.

5. Item PH 6a-69 contained proposals to apply the 1966 International Load Line Convention rail and bulwark height of one meter (39½ inches) to tank, passenger, cargo, small passenger, and oceanographic vessels. The Merchant Marine Council recommended a change in the proposal with respect to small passenger vessels (Subchapter T). The effect of this recommendation is to apply the 1966 International Load Line Convention rail and bulwark height of one meter (39½ inches) only to those small passenger vessels which are subject to the 1966 International Load Line Convention. However, the cognizant Officer in Charge, Marine Inspection is authorized to approve a lesser height where the height of 39½ inches will interfere with the normal operation of the ship and he is satisfied that the lesser height will provide adequate protection. All other small passenger vessels covered by Subchapter T will continue to be covered by the existing requirements. See 46 CFR 177.35-1.

6. (a) Item PH 8a-69 proposed to amend Subchapters D, I, and U to require the applicable vessels to carry at least two emergency fireman's outfits instead of the one now required. The item also revised the components included within the fireman's emergency outfit. As a result of a comment received, the Merchant Marine Council recommended a change to 46 CFR 35.30-20 which has the effect of permitting manned tank barges to continue to carry only one outfit. (b) Item PH 8b-69 proposed amendments to §§ 35.70-20(d), 78.80-15(c), 97.70-15(c), and 146.09-15(e) which would require that the carbon monoxide concentration in the holds and intermediate decks where persons are working be maintained at not more than 50 parts per million as a time-weighted average and that persons be removed from these spaces if the concentration exceeds 75 parts per million. Item PH 2-69 proposed the same change to §§ 146.27-30(c) (1), 146.27-31(c) (1), and 146.27-32(c) (1). These proposals were predicated on the recommendations of the American Conference of Governmental Industrial Hygienists (ACGIH). A number of written and oral comments were received on this proposal. Some comments were to the effect that the present standard be left unchanged. Other comments urged that the proposed amendments should be consistent with an anticipated amendment to 29 CFR Part 1504, Safety and Health Regulations for Longshoring, by the Department of Labor. This amendment by the Department of Labor was represented as being similar to the Coast Guard proposal except that it would require the removal of persons from an affected space whenever the carbon monoxide concentration exceeds 100 parts per million. Still another comment strongly urged the Coast Guard to adopt the requirement for the removal of all persons from spaces whenever the carbon monoxide concentration exceeds 50 parts per million. The proposals and all the comments were duly considered by the Merchant Marine Council and consultations were held with representatives of the Bureau of Labor Standards of the Department of Labor. These consultations indicated no opposition to the Coast Guard proposals. Accordingly, the Merchant Marine Council recommended that the proposals in Item PH 8b-69 and the related proposals in Item PH 2-69 be adopted without change. Also, the Council recommended a comparable change be made to §§ 78.83-1(b), 97.80-1(b), (c), and 146.07-5(d). In addition, the Council considered the advisability of developing procedures for sampling the atmosphere for carbon monoxide in the affected spaces. However, it soon became apparent that the development of monitoring procedures would require extensive consultations with industrial hygienists and other experts. In view of the delay involved in this undertaking, the Council recommended that the amendments as proposed, without the monitoring procedures, be promulgated without further delay. However, the Coast Guard intends to develop and promulgate rea-

sonable monitoring procedures sometime in the future.

7. (a) Item PH 9b-69 proposed to amend §§ 25.05-15 and 184.15-5 to make it clear that the definition of light intensity in terms of candlepower, as published in the FEDERAL REGISTER of December 27, 1967 (32 F.R. 20812), will apply only to new navigation lights installed on or after January 1, 1971. In response to comments received the Council recommended a minor change to the proposed amendments to ensure that the existing navigation lights on uninspected vessels and small passenger vessels under 100 gross tons will continue to be evaluated on the same basis as they were prior to the adoption of the intensity definition. (b) Item PH 10-69 proposed to amend Parts 42 and 45 to revise, in the light of current conditions, certain prescribed fees for the assignment of vessel load lines. No comments were received on this item and the Council recommended that the proposed amendments be adopted without change.

8. Accordingly, after due consideration of all the relevant matter including the comments of the interested persons and the recommendations of the Merchant Marine Council, the Commandant U.S. Coast Guard has approved the amendments set forth below.

SUBCHAPTER C—UNINSPECTED VESSELS

PART 25—REQUIREMENTS

Subpart 25.05—Navigation Lights and Shapes, Whistles, Foghorns, Fog Bells, and Gongs

9. Section 25.05-15 is amended by adding a new paragraph (d) to read as follows:

§ 25.05-15 Light intensity standards.

(d) The light intensity standards of this section shall apply to new navigation lights installed and replacements of existing lights made on or after January 1, 1971. Such lights shall be of an approved type.

(R.S. 4405, as amended, 4462, as amended, sec. 17, 54 Stat. 166, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 526p, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

SUBCHAPTER D—TANK VESSELS

PART 30—GENERAL PROVISIONS

Subpart 30.01—Administration

10. Section 30.01-20 is amended by revising the heading and paragraphs (a) and (b) to read as follows:

§ 30.01-20 Portable tanks—interpretive rulings—TB/ALL.

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

which are actually loaded and discharged from vessels with their contents intact.

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

(R.S. 4405, as amended, 4417a, as amended, 4462, as amended, 4472, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 391a, 416, 170, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 31—INSPECTION AND CERTIFICATION

Subpart 31.25—Load Lines

11. Section 31.25-1 is revised to read as follows:

§ 31.25-1 Load lines required—TB/OCL.

All tank vessels of 150 gross tons or over, or 79 feet in length or greater, navigating the oceans, coastwise waters, and Great Lakes are subject to the regulations in Parts 42 to 45, inclusive, Subchapter E (Load Lines), of this chapter, as applicable.

(R.S. 4405, as amended, 4417a, as amended, 4462, as amended, sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 391a, 416, 49 U.S.C. 85a, 88a, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 32—SPECIAL EQUIPMENT, MACHINERY, AND HULL REQUIREMENTS

Subpart 32.01—Safety Requirements

12. Section 32.01-10 is revised to read as follows:

§ 32.01-10 Rails—TB/ALL.

(a) All tank vessels, except unmanned tank barges, contracted for on or after July 1, 1969, shall have efficient guard rails or bulwarks on decks and bridges. The height of rails or bulwarks shall be at least 39½ inches from the deck except that where this height would interfere with the normal operation of the vessel, a lesser height may be approved by the Commandant. At exposed peripheries of the freeboard and superstructure decks the rails shall be in at least three courses including the top. The opening below the lowest course shall not be more than 9 inches. The courses shall not be more than 15 inches apart. In the case of ships with rounded gunwales, the guard rail supports shall be placed on the flat of the deck. On other decks and bridges the rails shall be in at least two courses, including the top, approximately evenly spaced. All rails shall consist of solid or tubular sections or chains or wire rope or a combination thereof.

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

(c) Tank vessels contracted for prior to July 1, 1969, except unmanned tank barges, assigned a deeper load line under Part 42 of Subchapter E (Load Lines) of this chapter shall have efficient guard rails or bulwarks as required by paragraph (a) of this section. Otherwise, existing rails and bulwarks previously approved will be considered satisfactory so long as they are maintained in good condition. Minor repairs and alterations may be made to the same standard as the original construction.

Subpart 32.60—Hull Requirements for Tank Vessels Construction on or After July 1, 1951

13. Section 32.60-10(e) is revised to read as follows:

§ 32.60-10 Segregation of cargo; Grade A, B, C, or D—TB/ALL.

(e) *Openings.* (1) Except as provided in paragraph (c) of this section, there shall be no manholes or other openings from cargo tanks to any other enclosed spaces. An exception may be made to allow direct access from cargo tanks to innerbottoms through gas tight bolted manholes, provided:

(i) The innerbottom tanks are voids or ballast tanks only, and

(ii) The innerbottom tanks are protected from sources of ignition similar to the cargo tanks, and any bilge or ballast pumping system serving the innerbottom tanks are treated like cargo pumping systems.

(2) Any vents, sounding tubes, and similar piping passing through such tanks shall be run in a suitable trunk; or such piping shall have a wall thickness equal to or greater than the innerbottom plating, but not less than schedule 80, and shall be welded continuously on both sides of the innerbottom plating.

(R.S. 4405, as amended, 4417a, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 391a, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 33—LIFESAVING APPLIANCES

Subpart 33.15—Equipment for Lifeboats, Liferafts, or Buoyant Apparatus

14. Section 33.15-20(j) is revised to read as follows:

§ 33.15-20 Description of equipment for liferafts and buoyant apparatus—TB/LBR.

(j) *Water light.* The water light shall be of an approved automatic electric type, constructed in accordance with Subpart 161.001 or Subpart 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 161.001 shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition. The water light shall be attached to the liferaft or buoyant apparatus by a 12-thread manila or equiv-

alent synthetic lanyard 3 fathoms in length.

Subpart 33.40—Ring Life Buoys and Water Lights

15. Section 33.40-1(b) is revised to read as follows:

§ 33.40-1 Ring life buoys and water lights, general requirements—TB/ALL.

(b) All water lights shall be of an approved automatic electric type, constructed in accordance with Subpart 161.001 or Subpart 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 161.001 shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition.

(R.S. 4405, as amended, 4417a, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 391a, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 34—FIREFIGHTING EQUIPMENT

Subpart 34.20—Deck Foam System, Details

§ 34.20-1 [Amended]

16. Paragraphs (a) and (b) of § 34.20-1 are amended by changing the date from "January 1, 1962" to "January 1, 1970".

17. Section 34.20-5(b) is revised to read as follows:

§ 34.20-5 Quantity of foam required—T/ALL.

(b) *Rate of application.* The water rate of the foam production equipment shall be determined as follows:

(1) For usual petroleum products the water rate shall be at least 0.016 gallons per minute for each square foot of the cargo area or 0.24 gallons per minute for each square foot of the horizontal sectional area of the single tank having the largest such area, whichever is greater.

(2) For polar solvent products (e.g. alcohols, ketones, etc.) the water rate shall be determined for each vessel. The rate will depend upon the vessel design, products to be carried and foam system to be used.

§ 34.20-15 [Amended]

18. Section 34.20-15(c) is amended by adding between the first and second sentences the sentence reading as follows: "At least 50 percent of the required rate of application shall be from mounted appliances."

§ 34.20-90 [Amended]

19. The heading of § 34.20-90 and paragraphs (a) and (a) (3) thereof are amended to change the date, "January 1, 1962" to "January 1, 1970".

(R.S. 4405, as amended, 4417a, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 391a, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 35—OPERATIONS

Subpart 35.01—Special Operating Requirements

20. Section 35.01-25 is revised to read as follows:

§ 35.01-25 Sacrificial anode installations—TB/ALL.

(a) The installation of magnesium sacrificial anodes in cargo tanks utilized for the carriage of flammable or combustible liquids in bulk is prohibited.

(b) A sacrificial anode using an aluminum alloy will be permitted in cargo tanks under the following criteria:

(1) The maximum allowable energy that can be developed by a falling anode shall be 200 foot-pounds.

(2) No anode shall be installed more than 6 feet above the bottom of the tank. Special consideration will be given when structural design prevents the anodes from falling in event of failure of the attachments.

(3) Each anode shall have at least two welded or bolted connections to the supporting structure. Special consideration will be given to proprietary attachments which provide equally safe installations.

(4) The plans of the anode installation and a chemical analysis of the alloy composition shall be submitted for approval. The anode should be magnesium free and the silicon content limited to trace amounts.

(5) The recommended construction of the anode should utilize a mild steel core with necessary attachments. Other types may be used but will require special consideration.

(c) Sacrificial anodes using materials other than those having aluminum and/or magnesium in whole or in part are permitted.

Subpart 35.10—Fire and Emergency Requirements

21. Section 35.10-5(e) is revised to read as follows:

§ 35.10-5 Emergency signals; fire and lifeboat drills—T/ALL.

(e) The fire and boat drill shall be conducted as if an actual emergency existed. All hands should report to their respective stations and be prepared to perform the duties specified in the station bill.

(1) Fire pumps shall be started and a sufficient number of outlets used to ascertain that the system is in proper working order.

(2) All rescue and safety equipment shall be brought from the emergency equipment lockers and the persons designated shall demonstrate their ability to use the equipment.

(3) Weather permitting, lifeboat covers and strongbacks shall be removed, plugs or caps put in place, boat ladders secured in position, painters led forward and tended, and other lifesaving equipment prepared for use. The motor and hand-propelling gear of each lifeboat,

where fitted, shall be operated for at least 5 minutes.

(4) The passengers, if carried, shall be encouraged to fully participate in these drills and shall be instructed in the use of the life preservers.

(5) In port, every lifeboat shall be swung out, if practicable and the unobstructed lifeboats shall be lowered to the water and the crew exercised in the use of the oars and other means of propulsion if provided for the lifeboat. Although all lifeboats may not be used in a particular drill, care shall be taken that all lifeboats are given occasional use to ascertain that all lowering equipment is in proper order and the crew properly trained. The Master shall be responsible that each lifeboat is lowered to the water at least once in each 3 months.

(6) When the vessel is underway, and weather permitting, all lifeboats shall be swung out to ascertain that the gear is in proper order.

(7) 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 35.30—General Safety Rules

22. Section 35.30-20 is amended by revising paragraph (a) and adding to it new subparagraphs (5), (6), and (7) reading as follows:

§ 35.30-20 Emergency equipment—TB/ALL.

(a) All tankships having tanks which exceed 15 feet in depth, measured from the deck to the lowest point at which cargo is carried, all tankships on an international voyage, and all tankships of 1,000 gross tons and over shall be provided with at least two emergency outfits. All other manned tank vessels shall be provided with at least one emergency outfit. Each outfit shall be equipped as follows:

(5) Boots and gloves of rubber or other electrically nonconducting material.

(6) A rigid helmet which provides effective protection against impact.

(7) Protective clothing of material that will protect the skin from the heat of fire and burns from scalding steam. The outer surface shall be water resistant.

Subpart 35.70—Power-Operated Industrial Trucks

23. Section 35.70-20(d) is revised to read as follows:

§ 35.70-20 Special operating conditions—TB/ALL.

(d) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial trucks shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently

as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005%) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075%). When necessary, portable blowers of adequate size and location shall be utilized.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

SUBCHAPTER E—LOAD LINES

PART 42—DOMESTIC AND FOREIGN VOYAGES BY SEA

Subpart 42.35—Load Line Assignment, Surveys, and Inspections; Fees and Other Expenses

24. Section 42.35-1 is amended by revising Table 42.35-1 and adding a new paragraph (d) to read as follows:

§ 42.35-1 Scale of fees.

(a) * * *

TABLE 42.35-1—FEES FOR ASSIGNMENT OF LOAD LINE

Fee numeral or gross tonnage ¹	Classed vessels	Un-classed vessels
Under 200 gross tons	\$30	\$130
200 and under 400 gross tons	30	130
400 and under 700 gross tons	35	230
700 and under 1,000 gross tons	40	285
1,000 and under 1,500 gross tons	40	345
1,500 and under 2,500 gross tons	50	465
2,500 and under 3,500 gross tons	60	465
3,500 and under 5,000 gross tons	70	615
5,000 and under 6,500 gross tons	85	765
6,500 and under 8,000 gross tons	100	845
8,000 and under 10,000 gross tons	110	705
10,000 and under 12,000 gross tons	120	765
12,000 and under 15,000 gross tons	130	825
15,000 gross tons and above	140	885

¹ Fee numeral shall be calculated equal to $\frac{L \times B \times D}{140}$ in which L, B, and D are the molded dimensions. The fee numeral is to be used where it is greater than the gross tonnage.

(d) For full strength or subdivision load line calculations, a fee commensurate with the amount of work involved will be charged with \$100 as a minimum fee.

§ 42.35-5 [Amended]

25. Section 42.35-5(a) is amended by changing "50 percent" in the third line to "75 percent".

§ 42.35-10 [Amended]

26. Section 42.35-10(a) is amended by changing "\$25" in the second line to "\$45" and by changing "\$35" in the third line to "\$55".

(R.S. 4405, as amended, 4462, as amended, sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 85a, 88a, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 45—MERCHANT VESSELS WHEN ENGAGED IN A VOYAGE ON THE GREAT LAKES

Subpart 45.25—Fees and Form of Certificate

§ 45.25-1 [Amended]

27. Section 45.25-1 is amended by changing "§ 43.40-5" in the fifth line to "Subpart 42.35".

(R.S. 4405, as amended, 4462, as amended, sec. 2, 49 Stat. 888, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 88a, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

SUBCHAPTER H—PASSENGER VESSELS

PART 70—GENERAL PROVISIONS

Subpart 70.05—Application

28. Section 70.05-25 is amended by revising the heading and paragraphs (a) and (b) to read as follows:

§ 70.05-25 Portable tanks—Interpretive rulings.

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

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

(R.S. 4405, as amended, 4417a, as amended, 4462, as amended, 4472, as amended, sec. 6(b) (1), 80 Stat. 938; 46 U.S.C. 375, 391a, 416, 170, 49 U.S.C. 1655(b) (1); 49 CFR 1.4 (a) (2))

PART 72—CONSTRUCTION AND ARRANGEMENT

Subpart 72.20—Accommodations for Officers and Crew

§ 72.20-10 [Amended]

29. Section 72.20-10(b) is amended by changing "§ 43.15-1" in the 10th line to "§ 42.13-15".

Subpart 72.40—Rails and Guards

§ 72.40-1 [Amended]

30. Section 72.40-1(a) is amended by changing the date "November 19, 1952" which appears in both the fourth and fifth lines to "July 1, 1969".

31. Section 72.40-5 is revised to read as follows:

§ 72.40-5 Where rails required.

(a) All passenger vessels shall have efficient guard rails or bulwarks on decks and bridges as follows: The height of

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

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

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

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

32. Section 72.40-90 is revised to read as follows:

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

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

(Sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888, as amended, R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 85a, 88a, 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 75—LIFESAVING EQUIPMENT

Subpart 75.20—Equipment for Lifeboats, Liferrafts, Lifefloats, and Buoyant Apparatus

33. Section 75.20-25(o) is revised to read as follows:

§ 75.20-25 Description of equipment for liferafts.

(o) *Water light.* The water light shall be of an approved type, constructed in

accordance with Subparts 160.012, 161.001, or 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 160.012 or 161.001 shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition. The water light shall be attached to the liferaft by a 12-thread manila or equivalent synthetic lanyard 3 fathoms in length.

Subpart 75.43—Ring Life Buoys and Water Lights

34. Section 75.43-5(b) is revised to read as follows:

§ 75.43-5 General.

(b) All water lights shall be of an approved type, constructed in accordance with Subparts 160.012, 161.001 or 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 160.012 or 161.001 of this chapter shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 78—OPERATIONS

Subpart 78.80—Power-Operated Industrial Trucks

35. Section 78.80-15(c) is revised to read as follows:

§ 78.80-15 Special operating conditions.

(c) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial trucks shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005 %) as a timeweighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075 %). When necessary, portable blowers of adequate size and location shall be utilized.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

Subpart 78.83—Operation of Vehicles in Enclosed Locations

36. Section 78.83-1 is amended by deleting paragraph (c) and by revising paragraph (b) to read as follows:

§ 78.83-1 Special operating conditions.

(b) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial trucks shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005%) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075%). When necessary, portable blowers of adequate size and location shall be utilized.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

SUBCHAPTER I—CARGO AND MISCELLANEOUS VESSELS

PART 90—GENERAL PROVISIONS

Subpart 90.05—Application

37. Section 90.05-30 is amended by revising the heading and paragraphs (a) and (b) to read as follows:

§ 90.05-30 Portable tanks—interpretive rulings.

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

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

(R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 92—CONSTRUCTION AND ARRANGEMENT

Subpart 92.20—Accommodations for Officers and Crew

§ 92.20-10 [Amended]

38. Section 92.20-10(b) is amended by changing "§ 43.15-1" in the 10th line to "§ 42.13-15".

Subpart 92.25—Rails and Guards

§ 92.25-1 [Amended]

39. Section 92.25-1(a) is amended by changing the date "July 1, 1960" which appears in the fourth and fifth lines to "July 1, 1969".

40. Section 92.25-5 is revised to read as follows:

§ 92.25-5 Where rails required.

(a) All vessels shall have efficient guard rails or bulwarks on decks and bridges. The height of rails or bulwarks shall be at least 39½ inches from the deck except that where this height would interfere with the normal operation of the vessel, a lesser height may be approved by the Commandant. At exposed peripheries of the freeboard and superstructure decks, the rails shall be in at least three courses, including the top. The opening below the lowest course shall not be more than 9 inches. The courses shall not be more than 15 inches apart. In the case of ships with rounded gunwales the guard rail supports shall be placed on the flat of the deck. On other decks and bridges the rails shall be in at least two courses, including the top, approximately evenly spaced. If it can be shown to the satisfaction of the Officer in Charge, Marine Inspection, that the installation of rails of such height will be unreasonable and impracticable, having regard to the business of the vessel, rails of a lesser height or in some cases grab rails may be accepted and inboard rails may be eliminated if the deck is not generally accessible.

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

41. Section 92.25-90 is revised to read as follows:

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

(a) Vessels contracted for prior to July 1, 1969, assigned a deeper load line under Part 42 of Subchapter E (Load Lines) of this chapter shall have efficient guard rails or bulwarks as required by § 92.25-5. Otherwise, existing structure, arrangements, materials, and facilities previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction. However, in no case will greater departure from the standards of §§ 92.25-5 through 92.25-15 be permitted than presently exists.

(R.S. 4405, as amended, 4462, as amended, sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 85a, 88a, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 94—LIFESAVING EQUIPMENT

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

42. Section 94.20-25(o) is revised to read as follows:

§ 94.20-25 Description of equipment for liferafts.

(o) *Water light.* The water light shall be of an approved type, constructed in accordance with Subparts 160.012, 161.001 or 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 160.012 or 161.001 of this chapter shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition. The water light shall be attached to the liferaft by a 12-thread manila or equivalent synthetic lanyard 3 fathoms in length.

43. Section 94.20-35(e) is revised to read as follows:

§ 94.20-35 Description of equipment for lifeboats and buoyant apparatus.

(e) *Water light.* The water light shall be of an approved type, constructed in accordance with Subpart 160.012, 161.001 or 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 160.012 or 161.001 of this chapter shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition. The water light shall be attached to the lifeboat or buoyant apparatus by a 12-thread manila or equivalent synthetic lanyard 3 fathoms in length.

Subpart 94.43—Ring Life Buoys and Water Lights

44. Section 94.43-5(b) is revised to read as follows:

§ 94.43-5 General.

(b) All water lights shall be of an approved type, constructed in accordance with Subparts 160.012, 161.001 or 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 160.012 or 161.001 of this chapter shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 96—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

Subpart 96.35—Fireman's Outfit

45. Section 96.35-5 is amended by adding new paragraphs (f), (g), and (h), reading as follows:

§ 96.35-5 General.

(f) Boots and gloves shall be of rubber or other electrically nonconducting material.

(g) The helmet shall provide effective protection against impact.

(h) Protective clothing shall be of material that will protect the skin from the heat of fire and burns from scalding steam. The outer surface shall be water resistant.

46. Section 96.35-10 is revised to read as follows:

§ 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, a rigid helmet, boots, and gloves, protective clothing, and one fire ax.

(b) Every vessel shall carry at least two firemen's outfits.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 97—OPERATIONS

Subpart 97.70—Power-Operated Industrial Trucks

47. Section 97.70-15(c) is revised to read as follows:

§ 97.70-15 Special Operating Conditions.

(c) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial trucks shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005%) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075%). When necessary, portable blowers of adequate size and location shall be utilized.

Subpart 97.80—Operation of Vehicles in Enclosed Locations

48. Section 97.80-1 is amended by deleting paragraph (c) and by revising paragraph (b) to read as follows:

§ 97.80-1 Special operating conditions.

(b) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial trucks shall have adequate ventilation.

The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005%) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075%). When necessary, portable blowers of adequate size and location shall be utilized.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

SUBCHAPTER J—ELECTRICAL ENGINEERING

PART 111—ELECTRICAL SYSTEM; GENERAL REQUIREMENTS

Subpart 111.70—Special Requirements for Tank Vessels

49. Section 111.70-10(c) (2) (ii) is revised to read as follows:

§ 111.70-10 Special requirements for tank vessels contracted for on or after November 19, 1955—TB/ALL.

(c) * * *

(2) * * *

(ii) Where the location of a cargo handling room does not permit the lighting arrangement of subdivision (i) of this subparagraph, or where the lighting arrangement of subdivision (i) of this subparagraph, if used, would not provide the required illumination, approved explosion-proof lighting fixtures may be installed. Explosion-proof lighting fixtures in any one space shall be divided between at least two circuits and so arranged that adequate illumination exists for relamping any one deenergized lighting circuit.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 938; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

SUBCHAPTER N—DANGEROUS CARGOES

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

Subpart 146.02—General Regulations

§ 146.02-12 [Amended]

50. Section 146.02-12(a) is amended by changing the word "divulged" on the 24th line to "observed".

51. Section 146.02-20(a) (2) is revised to read as follows:

§ 146.02-20 Repairs or work involving welding or burning or other hazards.

(a) * * *

(2) No such repairs or work shall be undertaken in holds containing any other dangerous articles as cargo, nor in compartments adjoining holds in which other dangerous articles as cargo are stowed, nor upon the boundaries of holds in which other dangerous articles as cargo are stowed, except necessary repairs to the vessel's main propelling or boiler plant or auxiliaries thereto, including main propulsion shafting and propeller.

52. Section 146.02-25 is amended by revising the heading, by revising paragraphs (a) and (b) and by adding paragraphs (d) and (e) reading as follows:

§ 146.02-25 Conditions under which equivalent or alternative procedures may be used.

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

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

(d) Petitions for the use of alternate, equivalent, or new procedures, fitting, appliances, apparatus, equipment, packaging, or arrangements as provided in this section shall be submitted to the Commandant (MHM), U.S. Coast Guard, Washington, D.C. 20591, and shall contain the following information:

(1) The regulatory provision involved.

(2) The justification for the proposal, including any reasons why the regulations are not appropriate, why the public interest would be served by the proposal, and the basis upon which the proposal would provide an adequate and reasonable degree of safety.

(3) A detailed description of the proposal, including when appropriate drawings, plans, calculations, procedures, test results, and previous authorizations or permits, and any other supporting information.

(4) The chemical name, common name, hazard classification, form, quantity, properties, and characteristics of the material covered by the proposal, including composition and percentage (specified by volume or weight) of each constituent, if a solution or mixture.

(5) Any relevant shipping or accident experience.

(6) Types of vessels on which transport is proposed and any special transportation controls needed.

(7) The name, address, and telephone number of the petitioner.

(8) A statement or recommendation regarding any changes to the regulations which would be desirable to obviate the need for similar authorizations or special permits.

(e) If the shipment also involves modes of transport other than water, the shipper must comply with 49 CFR Part 170 in lieu of paragraph (d) of this section.

53. Section 146.02-30 is amended by revising the heading and paragraphs (a) and (b) to read as follows:

§ 146.02-30 Portable tanks—interpretive rulings.

(a) The phrase "drums, barrels, or other packages," as used in R.S. 4417a, as

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

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

Subpart 146.04—List of Explosives or Other Dangerous Articles Containing the Shipping Name or Description of Articles Subject to the Regulations in This Subchapter

§ 146.04-5 [Amended].

54. Section 146.04-5 *List of explosives and other dangerous articles and combustible liquids* is amended by adding in the proper alphabetical sequence and canceling certain items as follows:

Article	Classed as—	Label required
<i>Items added</i>		
Automobiles, motorcycles, tractors, other self-propelled vehicles or mechanized equipment (see: "Motor Vehicles, etc.").	Haz.....	
Clothing, used (see: "Rags, scrap").	Haz.....	
*Coconut meal pellets containing at least 6 percent and not more than 13 percent moisture and not more than 10 percent residual fat content.	Fl. S.....	Yellow.
*Coconut meal pellets containing more than 13 percent moisture or 10 percent residual fat content.		
*Copra pellets (see: "Coconut meal pellets").		
Manganese ethylenedithiocarbamate (see: "Pesticides, water reactive").	Haz.....	
Motor Vehicles, etc., including automobiles, motorcycles, trucks, tractors, and other self-propelled vehicles or equipment powered by internal-combustion engines, when offered new or used for transportation and which contain fuel in the engine or fuel tank or the electric storage battery is connected to either terminal of the electrical system of the vehicle.	Haz.....	
Pesticides, water reactive, including but not limited to fungicides and herbicides etc., which contain manganese ethylenedithiocarbamate.		
<i>Items canceled</i>		
Automobiles, motorcycles, tractors, other self-propelled vehicles, or mechanized equipment, new or used when offered for transportation without boxing or crating and containing gasoline, or other motor fuel within the fuel tank.	Haz.....	
Automobiles, motorcycles, tractors, other self-propelled vehicles or mechanized equipment, new or used with or without boxing or crating and containing no gasoline or other motor fuel within the motor or fuel tank. (See: "Automobiles, motorcycles, tractors, other self-propelled vehicles, or mechanized equipment, etc.")		

Subpart 146.05—Shipper's Requirements Regarding: Packing, Marking, Labeling, and Shipping Papers

55. Section 146.05-5 is amended by deleting paragraph (g) and by revising paragraphs (b), (c), (d), (e), (f), (h), (i), (j), (k), and (l) to read as follows:

§ 146.05-5 DOT and ICC specification packaging.

(b) Packagings not specified herein made previous to effective date of the regulations in this part and authorized for use under the regulations of the Department of Transportation, which may be continued in use, are as follows:

When the regulations in this part call for specification Nos.	These specification packagings may also be used
1A.....	1..... Boxed carboy, glass, or earthenware.
1B.....	1..... Boxed carboy, lead.
1C.....	1..... Carboy in keg, glass or earthenware.
2A.....	3, 25, 26..... Cylinder.
3AA.....	3, 25, 26..... Cylinder.
3B.....	26..... Cylinder.
3C.....	7..... Cylinder.
3D.....	33..... Cylinder.
3E.....	3..... Cylinder.
4A.....	26, 33..... Cylinder.
4B.....	26, 33..... Cylinder.
4BA.....	26, 33..... Cylinder.
4C.....	7..... Cylinder.
6B.....	20A..... Metal drum.

(c) For compressed gases when tank cars marked DOT-105A300 are authorized, tank cars marked DOT-105A400, 105A500, and 105A600 may also be accepted; when DOT-104A tank cars are authorized, tank cars marked DOT-105A300, 105A400, 105A500, and 105A600 may also be accepted; and when DOT-106A500 tank cars are authorized, tank cars marked DOT-106A800 may also be accepted.

(d) Tank cars: The regulations of the Department of Transportation, governing the transportation of explosives and other dangerous articles authorize the use of fusion welded tanks on tank cars. The fusion welded tank cars corresponding to the specification shown in the tables herein as an acceptable container are also authorized for acceptance on board vessels. These cars will be marked by a "W" added to the specification marking; for example, "DOT-103A" will carry the marking "DOT-103A-W", etc.

(e) Cylinders of foreign manufacture received from foreign countries for charging with compressed gas may be charged and shipped for export when in compliance with regulations governing such charging and shipping as promulgated by the Department of Transportation. Bill of lading or other shipping paper shall, when possible, identify the cylinder and shall carry the following certification:

These cylinders have been retested and re-filled in accordance with the Department of Transportation requirements for export.

(f) Where the regulations require DOT-37A and 37B single trip metal drums, DOT-37D, 37E, 37F, 37G, and 37H single trip metal drums may be continued in use for commodities and gross weights for which they were previously authorized until further order of the Department of Transportation.

(h) Where the regulations limit the gross weight of DOT specification portable tanks to 8,000 pounds, these portable tanks of gross weight not over 20,000 pounds may be used provided the lifting gear used to load and discharge the tank is of sufficient capacity to safely handle the weight.

(i) Where the regulations require specification DOT-22C or DOT-15P wooden or plywood boxes or drums, specifications DOT-1F or 1G polyethylene carboys in wooden or plywood boxes or drums respectively, may be continued in use for the commodities and capacities for which they were previously authorized until further order of the Department of Transportation.

(j) Where the regulations require specification DOT-21C fiber drums, specifications 21A or 21B fiber drums manufactured prior to June 27, 1962 may be used for commodities and weights for which they were previously authorized until further order of the Department of Transportation.

(k) Where the regulations require DOT-6D or 37M cylindrical steel over-

packs, DOT-6J or 37A (single trip container) metal drums manufactured prior to March 18, 1964, having an inside DOT-2S, 2SL, 2T, or 2TL polyethylene container, may be continued in use for the commodities and gross weights for which they were previously authorized until further order of the Department of Transportation.

(1) Where the regulations specify use of metal drums that may be constructed with full removable head, the opening size into the drum shall be restricted to the diameter size specified by the DOT regulations for the dangerous article concerned.

56. Section 146.05-9 is revised to read as follows:

§ 146.05-9 Specification packaging for outside packages.

Outside specification packaging may be shipped tightly overpacked in strong outside fiberboard boxes or drums; wooden boxes, barrels, or crates; metal barrels or drums; or other enclosures, under the following conditions.

(a) The package must contain no explosives or corrosive liquids other than

(1) Electrolyte, as listed in § 146.23-100;

(2) Electric storage batteries containing electrolyte; or

(3) Fire extinguisher charges.

(b) The outermost packaging must be marked with the prescribed name of contents and labeled as required by the regulations in this part.

(c) Packaging which is required by the regulations in this part to be marked "This Side Up" or "This End Up" must be placed in the overpack with filling holes up and the overpack must be properly marked "This Side Up" or "This End Up."

(d) The outside of the overpack must also be marked "Inside Packages Comply with Prescribed Specifications" unless the specification markings on the inside packaging are entirely visible through openings in the overpack.

57. Section 146.05-12(f) (5) is revised to read as follows:

§ 146.05-12 Originating shipping order, transfer shipping paper.

(f) * * *

(5) Shipping name of each article, as shown in roman type in § 146.04-5, and the proper classification prescribed in § 146.01-4. Further description not inconsistent with the shipping name may be shown. Unauthorized abbreviations shall not be used. For other than domestic shipments, when the proper shipping name of a commodity is an "N.O.S." entry in the particular table, this term shall be qualified by the chemical name of the commodity in parentheses, e.g., "Corrosive liquid, N.O.S. (caprylyl chloride)."

Subpart 146.06—Vessel's Requirements, Regarding: Acceptance, Handling, Stowage, Etc.

58. Section 146.06-14 is revised to read as follows:

§ 146.06-14 Source of information shown on manifest, list, or stowage plan.

(a) The information required to appear on a dangerous cargo manifest, list, or stowage plan by the provisions of § 146.06-15(b) shall be the information actually furnished to the vessel by the shipper of the dangerous substances upon his bill of lading or other shipping paper; and the owner, charterer, agent, master, or person under whose supervision the actual preparation of the manifest, list, or stowage plan is made, shall cause the information required to be correctly transcribed. The person preparing or supervising the preparing of the dangerous cargo manifest shall certify to the truth and accuracy of the information on it to the best of his knowledge and belief by his signature and a notation of the date prepared.

(b) The master, or a licensed deck officer designated by the master and attached to the vessel, or the person in charge of a barge, shall, by his signature, acknowledge the correctness of the dangerous cargo manifest, list, or stowage plan. The provisions of this paragraph shall not apply to unmanned barges.

59. Section 146.06-15 is amended by revising subparagraphs (1) and (3) of paragraph (b) to read as follows:

§ 146.06-15 Information required on manifests, lists, or stowage plans.

(b) * * *

(1) Name of vessel and official number. (If the vessel has no official number, the international radio call sign shall be substituted.)

(3) True shipping name of all explosives and other dangerous articles as given in the commodity list of the regulations in this part. For other than domestic shipments, when the shipping name of a commodity is an "N.O.S." entry in the particular table, this entry shall be qualified by the chemical name of the commodity in parentheses, e.g., "Corrosive Liquid, N.O.S. (caprylyl chloride)."

Subpart 146.07—Railroad Vehicles, Highway Vehicles, Containers or Portable Tanks Loaded With Explosives or Other Dangerous Articles and Transported on Board Ocean Vessels

60. The heading of Subpart 146.07 is revised to read as set forth above.

61. Section 146.07-1 is amended by revising paragraph (a) and subparagraphs (3), (4), and (7) of paragraph (b) to read as follows:

§ 146.07-1 Applicability and definitions.

(a) The regulations in this subpart apply to railroad vehicles, highway vehicles, containers and portable tanks in which are loaded any permitted explosives or other dangerous articles or substances, as defined in this part, when transported, carried or conveyed on

board any ocean-going vessel subject to the regulations in this part.

(3) A container is defined as a cargo-carrying unit which is designed and constructed to transport packaged or dry bulk cargoes. The container is designed to be placed on board a vessel intact, with or without cargo. When used as a land transportation unit it may be integrated with a chassis to form a highway vehicle.

(4) A portable tank is defined as a tank with a capacity in excess of 110 U.S. gallons which is designed and constructed for transporting liquids or compressed gases, equipped with skids, mountings, or other accessories to facilitate handling and securing by mechanical means, and to be lifted on and lifted off the vessel with its contents. The maximum acceptable gross weight for portable tanks is 20,000 pounds. Portable tanks in excess of 20,000 pounds gross weight and other portable tanks not specifically authorized by the regulations of this part may be authorized by the Commandant of the Coast Guard (see § 146.02-25) provided an equivalent degree of safety can be provided, e.g., by a controlled container-handling system.

(7) A containership is a vessel designed and constructed to transport portable tanks and containers which are lifted on and lifted off with their contents intact.

62. Section 146.07-5 is revised to read as follows:

§ 146.07-5 Permitted shipments.

(a) Railroad vehicles, highway vehicles, containers or portable tanks in which are loaded any permitted explosives or other dangerous articles or substances may be transported, carried or conveyed on board any vessel subject to the regulations in this part, provided there is compliance with the regulations in this subpart.

(b) Railroad vehicles, highway vehicles, containers or portable tanks in which are loaded explosives or other dangerous articles or substances or combustible liquids shall not be transported, carried or conveyed on board passenger vessels unless such items are specifically permitted by the regulations in this part to be transported, carried or conveyed on board passenger vessels, and provided there is compliance with the regulations in this subpart.

(c) Containers and packages of explosives, inflammable (flammable) liquids, inflammable (flammable) solids, oxidizing materials, corrosive liquids, compressed gases, poisons, and hazardous articles shall be so braced and secured in accordance with Department of Transportation Regulations (49 CFR Parts 170-190) for the vehicle concerned as to prevent movement within the railroad vehicle, highway vehicle, container or portable tank in which they are being transported. Portable tanks having valves or other fittings must have the valves or fittings protected and be so loaded that there will be a minimum likelihood of damage thereto during

transportation. Packages marked with stowage instructions such as "This side up" or "This end up" shall be so stowed.

(d) Railroad vehicles, highway vehicles, containers and portable tanks equipped with refrigerating or heating equipment using a flammable liquid or gas as fuel, and having such fuel in the fuel tank shall be transported only "On deck". Such equipment may be operated on board the vessel when the "On deck" stowage is provided. Equipment stowed on deck may be refueled under supervision of a qualified officer of the vessel assigned for such duty who shall insure that adequate safety precautions are observed. Railroad vehicles, highway vehicles, containers and portable tanks having refrigerating or heating equipment operated by internal combustion engines using fuel other than a flammable liquid or gas may be stowed and operated below deck provided that dangerous concentrations of carbon monoxide do not develop. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The concentration of carbon monoxide in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005 %) as a time weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075 %). When necessary, a mechanical ventilation system of adequate capacity shall be utilized. The stowage shall be in accordance with the requirements of this part for the particular commodity. If the equipment is secured, and the fuel tank completely drained, the railroad vehicle, container, or portable tank may be stowed in accordance with the requirements of this part and subpart without any further restrictions.

(e) All of that portion of the lading of any railroad vehicle, highway vehicle, container, or portable tank which consists of explosives or other dangerous articles shall be contained entirely within its body or within the horizontal outline thereof, without overhang or projection of any part of the load, and if such railroad vehicles, highway vehicle, container, or portable tank has a tailboard or tailgate, it shall be closed and secured in place during such transportation.

63. Section 146.07-10 is amended by revising paragraphs (b) and (c) to read as follows:

§ 146.07-10 Tank containers.

(b) This section does not apply to tank containers removed from the vehicle chassis or underframe. Such containers shall be considered portable tanks and the materials, design, construction and method of handling shall be as specified in this part (i.e., certain DOT specification tanks) or as specifically ap-

proved by the Commandant of the U.S. Coast Guard.

(c) Railroad or highway vehicles, to which is attached a tank, or portable tanks which previously contained a substance defined as dangerous by the regulations in this part, shall be transported in accordance with § 146.27-100.

64. Section 146.07-15 is revised to read as follows:

§ 146.07-15 Acceptance on board vessels.

(a) The master, owner, charterer, agent or other person in charge of the vessel shall require the shipper or his agent, or the delivering carrier, or the driver of the vehicle to furnish a copy of the shipper's shipping order, shipping paper, bill of lading, manifest or other memorandum, or a waybill prepared from information furnished in the shipper's shipping order bearing the certification required by § 146.07-20 before accepting any railroad or highway vehicles, containers or portable tanks, in which are loaded explosives or other dangerous articles or substances. This shipping paper shall have entered upon it the proper and definite name of the commodity or commodities contained therein according to § 146.04-5, the total quantity by weight or volume, the prescribed label when required for the outside container of such article, the name and addresses of the consignor and consignee, and the identification number of the vehicle, container or portable tank. In lieu of the consignee's name shipping marks may be used. The Dangerous Cargo Manifest or List (§ 146.06-12) shall be compiled from this information of this part.

(b) The master or other person in charge of the vessel shall assign an officer of the vessel to supervise the acceptance and stowage of railroad or highway vehicles, containers, or portable tanks containing permitted explosives or other dangerous articles or substances. This officer shall examine the vehicles, containers, or portable tanks for signs of leaking, damage to the container, or sifting of contents. For tanks he shall examine dome covers to ascertain if they are fitted securely; check valves, piping, and the tanks for leakage or excess residue of lading. Any vehicle, container, or portable tank found to be damaged, leaking, or sifting, or having excess residue of lading adhering thereto shall not be accepted for transportation.

65. Section 146.07-25 is revised to read as follows:

§ 146.07-25 Marking and placarding.

(a) Railroad vehicles, highway vehicles, containers, or portable tanks in which are loaded explosives or other dangerous articles in any amount shall be marked with the placards as described in the Department of Transportation regulations pertaining to each means of transportation, and shall carry an identification number.

(b) The label required for the dangerous cargo within the vehicle, container, or portable tank shall be dis-

played in a conspicuous place in addition to the required placard. Individual packages are exempt from the labeling requirements provided they are not removed from the vehicle, container, or portable tank while aboard the vessel.

§ 146.07-30 [Amended]

66. Section 146.07-30 is amended by changing the words "vans or portable containers" in the second line to "containers or portable tanks".

67. Section 146.07-35 is revised to read as follows:

§ 146.07-35 Exemption of railroad and highway vehicles, container or portable tank from detailed handling or stowage requirements.

(a) Detailed regulations governing handling and stowage of permitted explosives, inflammable (flammable) liquids, inflammable (flammable) solids, oxidizing materials, corrosive liquids, compressed gases, or poisons on board vessels do not apply to such substances loaded in railroad or highway vehicles, containers, or portable tanks, provided such substances remain within the vehicles, containers, or portable tanks and are certified in accordance with § 146.07-20. Permit requirements for explosives (§§ 146.20-85, 146.20-87), ammonium nitrate (§ 146.22-30) and nitro carbo nitrate (§ 146.22-40) are applicable.

(b) Detailed regulations governing handling and stowage of hazardous articles or combustible liquids on board vessels do not apply to such articles or substances loaded in railroad or highway vehicles, containers, or portable tank, provided such articles or substances are certified on the shipping paper as being properly described by name, and as being packed, marked, and in proper condition for transportation according to the regulations in this part.

68. Section 146.07-40 is amended by revising the introductory paragraph and paragraphs (a), (b), and (d) to read as follows:

§ 146.07-40 Stowage on board vessels.

Railroad or highway vehicles, containers, or portable tanks in which are loaded any permitted explosives or other dangerous articles or substances which are certified on the shipping papers as being described, packed, marked, and labeled in accordance with Department of Transportation regulations, or hazardous articles which are described, packed, and marked in accordance with the regulations in this part, shall when taken on board the vessel be stowed in accordance with the following provisions:

(a) *Explosives.* Plans and specifications for highway vehicles, and containers proposed to be used for transportation of explosives, for which a permit is required by §§ 146.20-85 and 146.20-87, shall be specifically approved by the Commandant of the Coast Guard. Vehicles or other containers loaded with permitted explosives are not required to be given magazine stowage provided the vehicles or containers form a complete magazine. Such vehicles or containers may be stowed "Under deck" and away

from all sources of heat, and not overstowed. No vehicle or container containing any other dangerous articles that require a placard by this subpart shall be stowed within a distance of 100 feet or unless separated by two continuous permanent deck or bulkheads from vehicles or containers loaded with Class A or Class B explosives. Blasting caps or other detonators in any quantity shall not be transported in the same vehicle or contained with any other explosives. In addition to the usual securing means provided, vehicles or containers loaded with explosives shall be anchored by an additional securing means satisfactory to the U.S. Coast Guard and the master of the vessel so as to completely secure the entire unit to prevent any movement of the body thereof.

(b) *Other dangerous articles.* No dangerous articles or substances may be stowed in the same vehicle or container with any other article or substance with which it is incompatible according to the regulations in this part. Vehicles or containers loaded with any other permitted dangerous article shall be stowed on board the vessel in accordance with the stowages required in the tables for the substances within the vehicles. Such stowages are not feasible in each instance for railroad or highway vehicles or containers stowed below deck on vessels; and, for the purpose of adopting these stowages to the conditions incident to transportation of railroad and highway vehicles, and containers in this method of transportation, a conversion table is shown in paragraph (c) of this section. Permitted stowages as shown in Tables A through K for the substances loaded within the vehicles may be converted in accordance with this conversion table. When so converted the stowage in columns 2 and 3 may be utilized in lieu of the stowage indicated under column 1.

(d) *Compatibility of other dangerous articles.* No vehicle, container or portable tank loaded with dangerous articles requiring a placard or label under this subpart shall be stowed adjacent to a placarded or labeled vehicle, container or portable tank loaded with other dangerous articles which would not be permitted stowage in the same hold or compartment under the detailed stowage regulations, Subparts 146.19 to 146.26, unless the vehicles, containers or portable tanks are separated by an intervening watertight steel deck or bulkhead. The term "adjacent" as used in this paragraph means that a side, end, top, or bottom surface directly faces another side, end, top, or bottom surface of another container or portable tank.

Subpart 146.08—Railroad or Highway Vehicles Loaded With Dangerous Substances and Transported on Board Ferry Vessels

69. The heading to Subpart 146.08 is amended by inserting the word "Ferry" before the word "Vessels" to read as set forth above.

§ 146.08-3 [Redesignated]

70. Subpart 146.08 is amended by redesignating § 146.08-1 as § 146.08-3.

71. Subpart 146.08 is amended by adding a new § 146.08-1 to read as follows:

§ 146.08-1 Applicability and definitions.

(a) The regulations in this subpart apply to railroad vehicles and highway vehicles in which are loaded any permitted explosives or other dangerous articles or substances, as defined in this part, when transported, carried, or conveyed on board any railroad car ferry or ferry vessel subject to the regulations in this part.

(b) For purposes of the regulations in this subpart the following definitions apply:

(1) A railroad vehicle is a cargo-carrying body or tank attached to an underframe and wheels (e.g., box car, tank car, etc.) intended for use over the railroad system.

(2) A highway vehicle is a cargo-carrying body or tank attached to the chassis and wheels intended for use over the highway.

Subpart 146.09—Cargo Handling and Storage Devices, U.S. Coast Guard Container Specifications

72. Section 146.09-15(e) (3) is revised to read as follows:

§ 146.09-15 Power-operated industrial trucks.

(e) * * *

(3) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial trucks shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005 %) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075 %). When necessary, portable blowers of adequate size and location shall be utilized.

Subpart 146.19—Detailed Regulations Governing Radioactive Materials

§ 146.19-35 [Amended]

73. Section 146.19-35 is amended by revising the figures in Table 146.19-35 only in the columns, "A," "B," "C," and "D" under the heading "Minimum distance in feet from living accommodation or regularly occupied working space" reading as follows:

TABLE 146.19-35—SAFE DISTANCE FOR PERSONS AND UNDEVELOPED FILM

MINIMUM DISTANCE IN FEET FROM LIVING ACCOMMODATION OR REGULARLY OCCUPIED WORKING SPACE

***	A	B	C	D	***
	10	10	10	10	
	10	10	10	10	
	10	10	10	10	
	10	10	10	10	
	15	10	10	10	
	25	10	10	10	
	40	15	10	10	
	60	20	10	10	
	80	25	10	10	
	110	30	10	10	
	130	35	10	10	

Subpart 146.20—Detailed Regulations Governing Explosives

74. Section 146.20-23(p) is revised to read as follows:

§ 146.20-23 Stowage of explosives with other dangerous articles.

(p) Explosives shall not be stowed in the same hold or compartment with hazardous articles, except that empty compressed gas cylinders which previously contained nonflammable compressed gas may be stowed with Class C Explosives.

Subpart 146.21—Detailed Regulations Governing Inflammable Liquids

§ 146.21-100 [Amended]

75. Section 146.21-100 Table D—Classification; inflammable liquid is amended by deleting from the entries for the article "Cement, leather, etc." the words "Authorized only for viscous liquids; Portable tank (ICC-52 aluminum), not over 500 gal. cap." in the fourth column which is headed "Required condition for transportation—Cargo vessel"; by deleting from the entries for the article "Methylhydrazine" the words "Carboys, boxed, glass (ICC-ID) not over 6½ gal. cap." which is located under the fourth column which is headed "Required conditions for transportation—Cargo vessel"; and by deleting from the entries for the article "Paint, enamel, lacquer, etc." the words "Portable tanks (ICC-52 aluminum or magnesium) not over 500 gal. cap." which is located under the fourth column which is headed "Required conditions for transportation—Cargo vessel".

Subpart 146.22—Detailed Regulations Governing Inflammable Solids and Oxidizing Materials

§ 146.22-100 [Amended]

76. Section 146.22-100 Table E—Classification; Inflammable Solids is amended by adding a new article, "Coconut meal pellets" to read as follows:

(1) In column 1 (in proper alphabetical sequence):

Coconut meal pellets containing more than 13 percent moisture or 10 percent residual fat content.

(2) In column 2:

Coconut meal pellets are made from copra from which most of the oil has been extracted and which has been compressed into pellet form. Liable to spontaneous heating from oxidation or bacteriological decay processes.

Wet coconut meal pellets shall not be accepted for water transport.

(3) In column 3:

Yellow;

(4) In column 4:

Stowage:

"On deck protected."

"On deck under cover."

Outside containers:

Airtight metal containers.

(5) In column 5:

Not permitted;

(6) In column 6:

Not permitted;

(7) In column 7:

Ferry stowage (BB).

Outside containers:

Airtight metal containers.

Bulk in railroad freight cars.

§ 146.22-100 [Amended]

77. Section 146.22-100 Table E—Classification; Inflammable Solids is further amended by adding a new article, "Copra pellets" to read as follows:

(1) In column 1 (in proper alphabetical sequence):

Copra pellets containing more than 13 percent moisture or more than 10 percent residual fat content.

(2) In column 4:

See "Coconut meal pellets containing more than 13 percent moisture or more than 10 percent residual fat content."

Subpart 146.27—Detailed Regulations Governing Hazardous Articles

78. Subpart 146.27 is amended by adding a new section § 146.27-27, to read as follows:

§ 146.27-27 Fishmeal Pellets in bulk.

(a) Fishmeal pellets may be carried in bulk in cargo vessels and barges subject to the regulations in this part provided the pellets have the following characteristics:

(1) The pellets must contain at least 6 percent but not more than 12 percent moisture by weight.

(2) The pellets must contain no more than 15 percent fat or oil by weight.

(3) The pellets must be treated with an antioxidant acceptable to the Commandant.

(4) The pellets must be stored for a period of at least 21 days prior to loading.

(b) Each cargo vessel hold containing fishmeal pellets in bulk must be adequately ventilated and provided with the following additional equipment:

(1) A sufficient number of thermocouples inserted in the fishmeal to detect a change in the temperature of the cargo. The thermocouples must be connected to a monitoring device located in the wheelhouse or in sheltered locations convenient to but outside of the cargo spaces.

Temperatures shall be read and recorded periodically.

(2) An approved carbon dioxide fire extinguishing system.

(c) The temperature of the interior of each hold must not exceed 37½° Centigrade or 100° Fahrenheit at the time of loading.

(d) Fishmeal pellets must not be stowed in the same hold with explosives or any other dangerous articles.

(e) The original bill of lading or other shipping paper must bear the shipper's certifying statement that the fishmeal pellets, when offered for shipment aboard the vessel, have the characteristics required by this section.

79. Section 146.27-30 is revised to read as follows:

§ 146.27-30 Motor vehicles and mechanized equipment powered by internal combustion engines and fueled by flammable liquids or flammable compressed gases.

(a) Applicability. Automobiles, trucks, motorcycles, tractors, other motor vehicles, and mechanized equipment which are powered by internal combustion engines using flammable liquids or flammable compressed gases as fuel may be transported on board vessels inspected and certified for ocean or coastwise voyages, subject to the conditions of this section. (Persons transporting motor vehicles on ferry vessels shall comply with the applicable requirements of Subpart 146.08 of this part. Vessels in a service similar to ferry service but not over a designated ferry route, may, at the discretion of the Officer in Charge, Marine Inspection, be treated as ferry vessels for the purposes of this section and Subpart 146.08.) Motor vehicles are hazardous articles if any of these three conditions exist:

(1) Fuel is contained in the fuel tank;

(2) Fuel is contained in the engine or;

(3) The electric storage battery is connected to either terminal of the electrical system of the vehicle.

(b) Vehicles shall not be considered as hazardous articles and may be transported without restriction provided all of the following conditions exist in the vehicle: The fuel tank has been thoroughly drained; the engine has been run until the fuel in the engine has been exhausted and the engine stalls; the battery cables have been disconnected and secured away from the battery terminals and the vehicles contain no dangerous articles other than the following:

(1) Two 1-pint metal containers of retouching enamel, either hermetically sealed or closed with a secure friction cap.

(2) One tire repair kit containing a tube of cement of not more than 4 fluid ounces capacity, completely enclosed in an outer metal of fiberboard container.

(3) Charged electric storage batteries, necessary for the normal operation of a vehicle, in position in the battery holder or, if shipped outside the battery

holder, then secured to prevent any movement of the battery. If a battery is packed within a boxed or crated vehicle, "This side up" markings shall be applied to the outside of the shipping box or crate.

(4) Such brake fluid as is actually contained within the brake mechanism.

(5) Motor vehicles and mechanized equipment shipped by, for, or to the Department of the Army, Navy, or Air Force may also contain electrolyte or corrosive battery fluid in a sufficient quantity to activate the number of electric storage batteries necessary for operation of the military vehicles or equipment. It must be packed in approved outside containers. Inside glass containers shall be cushioned on all sides with absorbent material in sufficient quantity to completely absorb the fluid contents in event of breakage. The outside container must be so blocked, braced or stayed within the vehicle or crate that it cannot change position during transit.

(6) Motor vehicles or mobile agricultural machinery may be shipped with a container of electrolyte or corrosive battery fluid secured in a position to prevent damage and packaged as follows: Wooden boxes (DOT-15A, 15B, 16C, 16A, 19A) or fiberboard boxes (DOT-12B, 12C) WIC meeting the requirements of DOT regulations.

(c) Conditions of acceptance and stowage.

(1) Before and after loading, vehicles shall be inspected for leaks. Vehicles showing signs of leakage shall not be accepted for transport.

(2) Vehicles may be stowed on deck or under deck.

(3) Vehicles stowed in a hold or compartment shall have battery cables disconnected and secured away from the battery terminals.

(4) The fuel tank shall be not more than one-fourth full.

(5) Equipment used for handling vehicles shall be so designed that the fuel tank and fuel system are protected from stresses that might cause rupture or other damage incident to handling.

(6) Vehicles shall be stowed so as to allow for their inspection during transit.

(7) Portable electrical lights and hand flashlights used in the stowage area shall be of an approved explosion-proof type. Electrical connections for portable lights shall be made from outlets outside the spaces in which vehicles are stowed.

(8) No cargo of a dangerous or hazardous nature other than motor vehicles and mechanized equipment shall be stowed in the same hold or compartment with vehicles having flammable liquid or flammable compressed gas fuels in the fuel tanks.

(9) Two hand-portable, dry-chemical fire extinguishers of at least 10 pounds capacity shall be located in accessible locations in each hold or compartment in which motor vehicles are stowed.

(10) "No Smoking" signs shall be conspicuously posted at each access opening to the hold or compartment.

(d) General vessel requirements.

(1) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of motor vehicles shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to ensure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005%) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075%). When necessary portable blowers of adequate size and location shall be used to obtain sufficient ventilation.

(2) Holds and compartments in which motor vehicles and other mechanized equipment are stowed shall be in compliance with the following conditions:

(i) The holds or compartments shall be ventilated and fitted with an overhead water sprinkler system or fixed fire extinguishing system.

(ii) The holds or spaces shall be equipped with a smoke- or fire-detecting system.

(iii) Any electrical equipment in the hold or compartment other than fixed explosion-proof lighting shall be disconnected from its power supply at a location outside the hold or compartment while the vehicles are being handled or are stowed therein. Where the disconnecting means is a switch or circuit breaker, it shall be locked in the open position until the vehicles have been discharged.

80. Subpart 146.27 is amended by adding 2 new sections, §§ 146.27-31 and 146.27-32, to read as follows:

§ 146.27-31 Motor vehicles and mechanized equipment powered by internal combustion engines and fueled by combustible liquids.

(a) Applicability: Automobiles, trucks, motorcycles, tractors, other motor vehicles, and mechanized equipment which are powered by internal combustion engines using combustible liquids as fuel may be transported on board vessels inspected and certificated for ocean or coastwise voyages, subject to the conditions of this section. (Persons transporting motor vehicles on ferry vessels shall comply with the applicable requirements of Subpart 146.08 of this part. Vessels in a service similar to ferry service but not over a designated ferry route may, at the discretion of the Officer in Charge, Marine Inspection, be treated as ferry vessels for the purposes of this section and Subpart 146.08.) Motor vehicles are hazardous articles if any of these three conditions exist:

- (1) Fuel is contained in the fuel tanks;
- (2) Fuel is contained in the engine;
- (3) Or the electric storage battery is connected to either terminal of the electrical system of the vehicle.

(b) Vehicles shall not be considered as hazardous articles and may be transported without restriction provided all of the following conditions exist in the vehicle: the fuel tank has been thoroughly drained; the engine has been run until the fuel in the engine has been exhausted and the engine stalls; the battery cables have been disconnected and secured away from the battery terminals and the vehicle contains no dangerous articles other than the following:

(1) Two 1-pint metal containers of retouching enamel, either hermetically sealed or closed with a secure friction cap.

(2) One tire repair kit containing a tube of cement of not more than 4 fluid ounces capacity, completely enclosed in an outer metal or fiberboard container.

(3) Charged electric storage batteries, necessary for the normal operation of a vehicle, in position in the battery holder or, if shipped outside the battery holder, then secured to prevent any movement of the battery. If a battery is packed within a boxed or crated vehicle, "This side up" markings shall be applied to the outside of the shipping box or crate.

(4) Such brake fluid as is actually contained within the brake mechanism.

(5) Motor vehicles and mechanized equipment shipped by, for, or to the Department of the Army, Navy, or Air Force may also contain electrolyte or corrosive battery fluid in a sufficient quantity to activate the number of electric storage batteries necessary for operation of the military vehicles or equipment. It must be packed in approved outside containers. Inside glass containers shall be cushioned on all sides with absorbent material in sufficient quantity to completely absorb the fluid contents in event of breakage. The outside container must be so blocked, braced or stayed within the vehicle or crate that it cannot change position during transit.

(6) Motor vehicles or mobile agricultural machinery may be shipped with a container of electrolyte or corrosive battery fluid secured in a position to prevent damage and packaged as follows: Wooden boxes (DOT-15A, 15B, 15C, 16A, 19A) or Fiberboard boxes (DOT-12B, 12C) WIC meeting the requirements of DOT regulations.

(c) Conditions of acceptance and storage.

(1) Before and after loading, vehicles shall be inspected for leaks. Vehicles showing signs of leakage shall not be accepted for transport.

(2) Vehicles may be stowed on deck or under deck.

(3) Vehicles stowed in a hold or compartment shall have battery cables disconnected and secured away from the battery terminals.

(4) The fuel tanks shall be not more than one-fourth full.

(5) Equipment used for handling vehicles shall be so designed that the fuel tank and fuel system are protected from stresses that might cause rupture or other damage incident to handling.

(6) Vehicles shall be stowed so as to allow for their inspection during transit.

(7) Two hand-portable, dry-chemical fire extinguishers of at least 10 pounds capacity shall be located in accessible locations in each hold or compartment in which motor vehicles are stowed.

(8) "No Smoking" sign shall be conspicuously posted at each access opening to the hold or compartment.

(d) General vessel requirements:

(1) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of motor vehicles shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to ensure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005%) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075%). When necessary, portable blowers of adequate size and location shall be used to obtain sufficient ventilation.

§ 146.27-32 Motor vehicles and mechanized equipment powered by internal combustion engines and transported on vessels in spaces specially suitable for vehicles.

(a) Applicability: Automobiles, trucks, motorcycles, tractors, other motor vehicles, and mechanized equipment which are powered by internal combustion engines may be transported in spaces designated as specially suitable for the carriage of vehicles on board vessels inspected and certificated for ocean or coastwise voyages, subject to the conditions of this section. For the definition of spaces designated as "specially suitable for vehicles", as applicable to U.S. vessels see § 70.10-44 of Subchapter H and § 90.10-38 of Subchapter I of this chapter. (Persons transporting motor vehicles on ferry vessels shall comply with the applicable requirements of Subpart 146.08 of this part. Vessels in a service similar to ferry service but not over a designated ferry route may, at the discretion of the Officer in Charge, Marine Inspection, be treated as ferry vessels for the purposes of this section and Subpart 146.08.) Motor vehicles are hazardous articles if any of these three conditions exist:

- (1) Fuel is contained in the fuel tank;
- (2) Fuel is contained in the engine;
- (3) Or the electric storage battery is connected to either terminal of the electrical system of the vehicle.

(b) Vehicles shall not be considered as hazardous articles and may be transported without restriction provided all of these conditions exist in the vehicle: the fuel tank has been thoroughly drained; the engine has been run until the fuel in the engine has been exhausted and the engine stalls; the battery cables have been disconnected and secured away

from the battery terminals and the vehicle contains no dangerous articles other than the following:

(1) Two 1-pint metal containers of retouching enamel, either hermetically sealed or closed with a secure friction cap.

(2) One tire repair kit containing a tube of cement of not more than 4 fluid ounces capacity, completely enclosed in an outer metal or fiberboard container.

(3) Charged electric storage batteries, necessary for the normal operation of a vehicle, in position in the battery holder or, if shipped outside the battery holder, then secured to prevent any movement of the battery. If a battery is packed within a boxed or crated vehicle, "This side up" markings shall be required on the outside of the shipping box or crate.

(4) Such brake fluid as is actually contained within the brake mechanism.

(5) Motor vehicles and mechanized equipment shipped by, for, or to the Department of the Army, Navy, or Air Force may also contain electrolyte or corrosive battery fluid in a sufficient quantity to activate the number of electric storage batteries necessary for operation of the military vehicles or equipment. It must be packed in approved outside containers. Inside glass containers shall be cushioned on all sides with absorbent material in sufficient quantity to completely absorb the fluid contents in event of breakage. The outside container must be so blocked, braced or stayed within the vehicle or crate that it cannot change position during transit.

(6) Motor vehicles or mobile agricultural machinery may be shipped with a container of electrolyte or corrosive battery fluid secured in a position to prevent damage and packaged as follows: Wooden boxes (DOT-15A, 15B, 15C, 16A, 19A) or fiberboard boxes (DOT-12B, 12C) WIC meeting the requirements of DOT regulations.

(c) Conditions of acceptance and stowage.

(1) Before and after loading, vehicles shall be inspected for leaks. Vehicles showing signs of leakage shall not be accepted for transport.

(2) Vehicles may be stowed on deck or under deck.

(3) The fuel tank shall be not more than one-fourth full.

(4) Equipment used for handling vehicles shall be so designed that the fuel tank and fuel system are protected from stresses that might cause rupture or other damage incident to handling.

(5) Vehicles shall be stowed so as to allow for their inspection during transit.

(6) No cargo of a dangerous or hazardous nature other than motor vehicles and mechanized equipment shall be stowed in the same hold or compartment with vehicles having flammable liquid or flammable compressed gas fuels in the fuel tanks.

(7) Two hand-portable, dry-chemical fire extinguishers of at least 10 pounds capacity shall be located in accessible locations in each hold or compartment in which motor vehicles are stowed.

(8) "No Smoking" signs shall be conspicuously posted at each access opening to the hold or compartment.

(d) General vessel requirements:

(1) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of motor vehicles shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005 %) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075 %). When necessary, portable blowers of adequate size and location shall be used to obtain sufficient ventilation.

§ 146.27-100 [Amended]

81. Section 146.27-100 Table K—Classification: Hazardous articles is amended by deleting in column 1 the article hereinafter described and all the notes and entries pertaining thereto contained in columns 1, 2, 3, 4, 5, 6, and 7. The article that is deleted, together with all the pertinent notes and entries, is as follows:

Automobiles, motorcycles, tractors, other self-propelled vehicles, or mechanized equipment, new or used, when offered for transportation without boxing or crating and containing gasoline, or other motor fuel within the fuel tank.

§ 146.27-100 [Amended]

82. Section 146.27-100 Table K—Classification: Hazardous articles is amended by adding in column 1 in proper alphabetical sequence the following entry:

Automobiles (See Motor Vehicles, etc.)

§ 146.27-100 [Amended]

83. Section 146.27-100 Table K—Classification: Hazardous articles is amended by adding the following:

In column 1 (in proper alphabetical sequence),

Motor Vehicles etc., including automobiles, trucks, tractors, and other self-propelled vehicles or equipment powered by internal-combustion engines, when offered new or used for transportation and which contain fuel in the engine or fuel tank or the electric storage battery is connected to either terminal of the electric system of the vehicle.

In column 2,

Motor vehicles when offered for transportation as cargo or "passenger's baggage" on inland or domestic voyages and driven on and off the vessel by a member of the crew or agent of the vessel; or when offered as in ferry service and driven on and/or off the vessel by the owner or operator of the vehicle.

Fuel tanks shall be drained before loading vehicles destined for ocean-going voyages, unless the conditions of §§ 146.27-30, 146.27-31, and 146.27-32 are complied with. No marking required.

In columns 1 and 2 immediately below the preceding two entries,

NOTE: This does not include motor vehicles having on board dangerous articles as lading. For regulations governing transportation of such vehicles, see §§ 146.08-1 to 146.08-55, inclusive.

In column 3,

No label required.

In column 4,

Stowage:

"On deck in open."

"On deck protected."

"On deck under cover."

"Tween decks."

"Under deck."

(See Note in columns 5, 6, and 7.)

In column 5,

Stowage:

"On deck in open" "On deck protected" of if the vessel is provided with a compartment fitted with an overhead sprinkler system or fixed fire smothering system in any of the following locations such compartments may be utilized.

"On deck under cover."

"Tween decks."

"Under deck."

In column 6,

Ferry stowage: In the vehicle gangways.

In column 7,

Ferry stowage:

"On deck in open" or "On deck protected", or in the covered vehicle gangways on board car ferries having an overhead sprinkler system in such places.

In columns 5, 6, and 7 immediately below the preceding three entries,

NOTE: The person driving a motor vehicle on board a vessel shall observe the following rules:

(1) Drive the vehicle to the location indicated by the vessel's representative.

(2) Securely set the brakes of the vehicle to prevent movement.

(3) Shut off the motor and do not restart same until the vessel has completed its voyage and docked.

(4) Shut off all vehicle lights and do not relight same until the vessel has completed its voyage.

(5) Make no repairs or adjustments to the vehicle while on board the vessel.

(6) Observe any instructions given by the vessel's representative during drive-on or drive-off operations.

Smoking by any person within the vehicle, while on board the vessel, is prohibited.

§ 146.27-100 [Amended]

84. Section 146.27-100 Table K—Classification: Hazardous Articles is amended by revising the entry in column 4 for the article "Caustic potash, solid" to read as follows:

Stowage:

"On deck under cover."

"Tween decks."

"Under deck."

Outside packaging:

- Steel barrels or drums.
- Wooden barrels or kegs, not over 300 lbs. net wt.
- Wooden boxes, WIC, not over 200 lbs. net wt.
- Fiberboard boxes, WIC, not over 90 lbs. gr. wt.
- Fiber drums with inside liners, not over 400 lbs. net wt.
- Burlap asphalt-laminated paper bag, WIC polyethylene not over 102 lb. gr. wt.

See: "Bleaching powder."

§ 146.27-100 [Amended]

85. Section 146.27-100 Table K—*Classification: Hazardous Articles* is amended by adding the following:

In column 1 (in proper alphabetical sequence),

Coconut meal pellets containing at least 6 percent and not more than 13 percent moisture and not more than 10 percent residual fat content.

The originating bill of lading or other shipping paper shall bear the shipper's statement certifying the fat and moisture content of the shipment.

In column 2,

Coconut meal pellets (also known as copra pellets) are made from copra from which most of the oil has been extracted and which has been compressed into pellet form.

If allowed to absorb moisture or oil, it is subject to spontaneous heating by biological decay processes or by oxidation.

Check the temperature of the material before loading on board the vessel. Reject shipments if the temperature exceeds 120° F. Coconut meal pellets packed in wet or damp bags shall not be accepted for shipment.

Keep dry. Do not load during rain. Protect shipment from bilge water, deck drainage, and spray.

Observe temperatures during voyage for signs of heating.

Outside packaging, if any, shall be marked "Coconut meal pellets."

In column 3,

No label required.

In column 4,

Stowage:

- "On deck under cover."
- "Tween decks readily accessible."
- "Under deck."

Outside packaging:

- Burlap (jute) bags.
- Multi-ply paper bags.
- Polyethylene-lined burlap or paper bags.
- Bulk.

(See Note in columns 5, 6, and 7.)

In column 5,

Stowage:

- "On deck under cover."
- "Tween decks readily accessible."

Outside packaging:

- Burlap (jute) bags.
- Multi-ply paper bags.
- Polyethylene-lined burlap or paper bags.

In column 6,

Ferry stowage (AA).

Outside packaging:

- Burlap (jute) bags.
- Multi-ply paper bags.
- Polyethylene-lined burlap or paper bags.

In column 7,

Ferry stowage (BB).

Outside packaging:

- Burlap (jute) bags.

Multi-ply paper bags.

Polyethylene-lined burlap or paper bags.

Railroad freight cars.

In columns 5, 6, and 7 immediately below the preceding three entries,

NOTE: Coconut meal pellets shall be stowed so that free ventilation is provided to the entire stowage. This shall be accomplished as follows:

- (a) Do not stow nearer than 4 feet to any bulkhead subject to artificial heat.
- (b) Do not overstack with any other cargo.
- (c) Provide a clear space of at least 1 foot between top of bags or bulk cargo and underside of deck beams.
- (d) Use only dry dunnage.
- (e) Place two layers of plank dunnage on the deck or tank tops. The first layer shall be laid fore and aft and the second athwartships.

(f) Stack the bags hard against those battens where ships holds are provided with cargo battens. If battens are not provided, dunnage must be placed against the ship's sides or bulkheads in such a manner as to provide a clear space of at least 4 inches between the bags and the metal surfaces.

(g) In addition to the above requirements, stowage shall be according to one of the following methods:

1. Strip stowage:

(i) The stowage shall be double rows of bags stowed athwartship with 4-inch ventilation channels on both sides of the double rows of bags. The bags shall be placed with the ends in a fore and aft direction. The flaps of the bags shall be placed inward in the double rows.

(ii) Along the width of every seventh tier of bags a single layer of dunnage shall be placed on every third bag with boards running fore and aft. The dunnage must butt hard against the bulkheads fore and aft, and at least 18 inches overlap shall be allowed at the end of one board and the beginning of another in the same fore and aft line to provide stability. Not more than four layers of bags and not less than three should be above the top layer of dunnage.

2. Block stowage:

Sufficient dunnage shall be used between every third tier of bags to provide free circulation of air. The entire stowage shall be so arranged to permit ventilation to all parts of the stowage.

§ 146.27-100 [Amended]

86. Section 146.27-100 Table K—*Classification: Hazardous Articles* is amended by adding the following:

In column 1 (in proper alphabetical sequence),

Copra pellets containing at least 6 percent and not more than 13 percent moisture and not more than 10 percent residual fat content.

In column 4,

See "Coconut meal pellets containing at least 6 percent and not more than 13 percent moisture and not more than 10 percent residual fat content."

§ 146.27-100 [Amended]

87. Section 146.27-100 Table K—*Classification: Hazardous Articles* is amended by revising the entry in column 2 and the entry in column 4 for the article "Fish scrap or fish meal" to read as follows:

Column 2,

Fish scrap or fish meal consists of ground and dried fish residue. Is subject to spontaneous heating and ignition.

Offensive odor. Will contaminate foodstuffs. Smoking shall not be permitted in hatches in which fish meal or fish scrap is stowed or being handled.

Check temperature of material before loading on board the vessel. Reject bags if temperature exceeds 120° F.

Fish meal or fish scrap packed in wet or damp bags shall not be accepted for shipment.

Keep dry. Do not load during rain.

Protect shipment from bilge water, deck drainage or spray.

Observe temperatures during voyage for signs of heating.

Outside containers shall be marked "Fish meal" or "Fish scrap."

Bulk shipments shall be made under conditions prescribed in § 146.27-27.

In column 4,

Stowage:

- "On deck under cover."
- "Tween decks readily accessible."
- "Under deck."

Outside containers:

- Burlap (jute) bags.
- Double-walled paper bags.
- Polyethylene lined burlap or paper bags.
- Railroad freight cars.
- Bulk.

(See Note in columns 5, 6 and 7.)

§ 146.27-100 [Amended]

88. Section 146.27-100 Table K—*Classification: Hazardous Articles* is amended by adding in column 1 on a line below the words "Rags, scrap (when dry, clean and free from excess oil)", as a separate entry, the words "clothing used"; by adding in the first line of column 2 after the words "scraps of textile fabrics" the words "and used clothing"; by revising the last sentences of columns 4, 5, 6, and 7 to read "shipments of loose scrap rags and used clothing shall not be accepted."

§ 146.27-100 [Amended]

89. Section 146.27-100 Table K—*Classification: Hazardous Articles* is amended by adding the following:

In column 1 (in proper alphabetical sequence),

Pesticides, water reactive, including but not limited to fungicides and herbicides, etc., containing manganese ethylenebisdithiocarbamate.

In column 2,

Mixtures or proprietary formulations, liquid or solid, which if allowed to absorb moisture, will decompose and give off flammable vapors; therefore, keep dry. Use caution when fighting fire with heavy water stream; personnel use self-contained breathing apparatus.

In column 3,

No label required

In columns 4 and 5,

Stowage:

- "Tween decks"
- "Under deck"

Outside containers:

Strong, tight, water resistant outside packaging including tight metal drums.

In column 6,

Ferry stowage (AA).

Outside containers:

Strong, tight, water resistant outside packaging.

In column 7,

Ferry stowage (BB).

Outside containers:

Strong, tight, water resistant outside packaging.

Subpart 146.29—Detailed Regulations Governing the Transportation of Military Explosives and Hazardous Munitions on Board Vessels

90. Section 146.29-14 is amended by revising subparagraphs (1) and (3) of paragraph (c) to read as follows:

§ 146.29-14 Dangerous cargo manifest, list, or stowage plan.

(c) * * *

(1) Name of vessel and official number. (If the vessel has no official number, the international radio call sign shall be substituted.)

(3) True shipping name of all explosives and other dangerous articles as given in the commodity list of the regulations in this part (see § 146.04-5). Noun descriptions must be used.

92. Section 146.29-27 is revised to read as follows:

§ 146.29-27 Fire hose.

(a) During the handling, loading, or unloading of military explosive the vessel shall "run out" or otherwise make ready for quick use a minimum of two lines of hose on the weather deck, one fore and one aft. These hoses shall be of sufficient length so that a stream of water from at least one hose can reach all areas of the weather deck. The fire hose valves controlling these lines shall remain "cracked open" (except in freezing weather) so casual observation may indicate that water is available.

(b) Additional fire lines shall be "run out" or otherwise made ready at each hold or compartment working or containing military explosives when the hatch serving the hold is open. These lines shall be of sufficient length so that a stream of water can be directed onto all portions of the hold or compartment.

(c) Fire lines "run out" or otherwise made ready shall be fitted with an approved combination spray nozzle.

94. Section 146.29-39(g) is revised to read as follows:

§ 146.29-39 Handling and slinging of explosives.

(g) Drafts shall not be raised or stopped in lowering by sudden application of power or brake. Drafts shall not be unloaded by tripping or freeing one side of the net, tray, or pallet and tumbling the ammunition or explosives out of the gear. All drafts, beams, shackles, bridges, slings, hooks, etc., shall be hand freed before the winch takes control. Slings shall not be disengaged by hand unhooking and then dragged from under draft by means of winch except for the topmost layer in the hold when power removal is the only possible method and

when the cargo cannot be toppled. Handles or beackets on ammunition packages shall not be used for slinging purposes.

95. Section 146.29-45(e) is revised to read as follows:

§ 146.29-45 Loading or unloading military explosives and other cargo.

(e) Drafts of any kind shall not be handled over explosives or other dangerous articles that are stowed "On deck".

§ 146.29-73 [Amended]

96. Section 146.29-73(c) is amended by deleting the words "(of 2 hours or less)" in line 7.

97. Section 146.29-85 is amended by revising the introductory paragraph and paragraphs (a), (b), and (c) to read as follows:

§ 146.29-85 Chemical ammunition stowage.

Chemical ammunition or chemical agents in bulk that are authorized to be given chemical ammunition stowage by the provisions of § 146.29-100 shall, unless given another authorized stowage, be stowed under the following conditions:

(a) Shall be afforded the same protection as required for ammunition stowage.

(b) Stowage shall preferably be in a deep tank or a lower hold.

(c) When stowed in a deep tank, pump suction shall be effectively sealed off to prevent the escape of any leakage which may take place. Sealing off shall be accomplished by inserting a blank flange in way of the suction side of the bilge pump manifold.

NOTE: The blank flange is to prevent inadvertent leaking of chemical agents into occupied spaces through bilge suction piping. Nothing herein shall preclude the removal of the flange in an emergency situation should (in the opinion of the vessel's master) pumping of the deep tank be necessary.

98. Section 146.29-93(b)(1) is revised to read as follows:

§ 146.29-93 Stowage of blasting caps, detonators, primer detonators, etc.

(b) * * *

(1) With a permanent steel deck or bulkhead intervening, the separation shall not be less than 25 feet in any direction except where there are existing additional intervening permanent steel decks or bulkheads, in which case the distance requirement may be reduced by 50 percent.

§ 146.29-95 [Amended]

99. Section 146.29-95 is amended by deleting the word "double" in line 13.

§ 146.29-100 [Amended]

100. Section 146.29-100 *Classification, handling, and stowage chart* with respect to the entry in column 1, "X-B Explosive

bombs, mines, torpedoes, etc.," is amended by changing in column 2 (Description) after the word "warheads" the words "(all unfuzed)" to the words "(fuzed and unfuzed)".

§ 146.29-100 [Amended]

101. Section 146.29-100 *Classification, handling, and stowage chart* with respect to the entry in column 1, "X-C Guided missiles, solid propellant motors, packed with or without HE warheads" is amended by changing the heading of column 3 from "ICC marking" to "DOT marking"; by changing the heading of column 4 from "ICC class" to "DOT class"; by changing column 2, (Description) the words "ICC Class A" to "DOT Class A and Class B"; by adding in column 4 "or B" after the letter "A", by adding in column 4, the letter "A" opposite the entry "Jato units, Class A" in column 3, and by adding in column 4 the letter "A" opposite the entry "Jet, thrust units, Class A" in column 3.

(R.S. 4405, as amended, 4462, as amended, 4472, as amended, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 170, 49 U.S.C. 1655(b)(1); 49 CFR 1.4(a)(2))

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

Subpart 147.03—Detailed Regulations Governing Certification of Ships' Stores and Supplies

§ 147.03-9 [Amended]

102. Section 147.03-9 is amended by adding the word "third" after the word "every" in line 3.

(R.S. 4405, as amended, 4462, as amended, 4472, as amended, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 170, 49 U.S.C. 1655(b)(1); 49 CFR 1.4(a)(2))

SUBCHAPTER Q—SPECIFICATIONS

PART 160—LIFESAVING EQUIPMENT

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

103. Section 160.057-3 is amended by revising paragraphs (a) and (c) to read as follows:

§ 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. Other dimensions or materials may be considered upon special request when presented with supporting data. Igniter systems shall be of corrosion resistant metal. The combustible material shall be of such nature that it will not deteriorate during long storage or when subjected to frigid or tropical climates.

(c) *Construction.* The outer container shall be cylindrical and of a size suitable for intended use. All sheet metal seams should be hook jointed and soldered. The whole container shall be covered with two coats of waterproof paint or other equivalent protection system. 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.

104. Section 160.057-4 is amended by revising the introductory texts of paragraphs (b) and (b)(1) to read as follows:

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

(b) *Qualification (type or brand approval) tests.* Preapproval 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 Coast Guard shall have the right to require such other additional tests as reasonably may be deemed necessary, either with the completed signals or component parts, depending upon the particular construction methods and materials used. 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). One additional signal shall be dropped 90 feet into water and another shall be tested for satisfactory performance while floating in an open seaway. Both signals shall be attached to a ring life buoy in accordance with its manufacturer's instructions. Results of these tests will be analyzed by the Coast Guard to determine suitability for intended purpose.

§ 160.057-6 [Amended]

105. Section 160.057-6(c) is amended by changing the figure "3" in the 12th line to read "10".

(R.S. 4405, as amended, 4402, as amended, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b)(1); 49 CFR 1.4(a)(2))

PART 161—ELECTRICAL EQUIPMENT

106. Part 161 is amended by adding a new Subpart 161.010 to follow Subpart 161.008 and reading as follows:

Subpart 161.010—Floating Electric Water Light

- Sec.
- 161.010-1 Applicable specifications.
- 161.010-2 Type.
- 161.010-3 Materials.
- 161.010-4 Construction and performance.
- 161.010-5 Inspection and methods of test.
- 161.010-6 Marking.
- 161.010-7 Procedure for approval.

Authority: The provisions of this Subpart 161.010 issued under R.S. 4405, as amended, 4402, as amended, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b)(1); 49 CFR 1.4(a)(2).

Subpart 161.010—Floating Electric Water Light

§ 161.010-1 Applicable specifications.

(a) The following specifications, of the issue in effect on the date electric water lights are manufactured, form a part of this subpart:

(1) Federal specifications and standards:

- L-P-390 Plastic Molding Material, Polyethylene.
- L-P-393 Plastic Molding Material, Polycarbonate.
- TT-E-489 Enamel, Alkyd, Gloss.
- W-B-101 Battery, Dry.
- Federal Test Method Standard No. 408 Plastics. Methods of Testing Federal Standard No. 595—Colors.

(2) Military specifications:

- MIL-B-18—Batteries, Dry.
- MIL-P-79—Plastic Rods and Tubes, Thermosetting laminated.
- MIL-P-394—Plastic Molding Material, Polypropylene.
- MIL-R-900—Rubbersheets and cut, molded and extruded special shaped sections, synthetic, medium, soft, low temperature, gasket application.
- MIL-I-16923—Insulating Compound, Electrical Embedding.

(b) Applicable copies of the specifications in paragraph (a) of this section, as well as the various specifications forming a part thereof, shall be kept on file by the manufacturer, together with the certificate of approval. They shall be kept for a period consisting of the duration of the approval and 6 months after termination of approval.

(1) Federal Specifications and Standards may be purchased from the General Services Administration, Specification Activity, Printed Material and Supply Division, Building 197, Naval Weapons Plant, Washington, D.C. 20407.

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

§ 161.010-2 Type.

(a) Water lights, designated as light or lights, designed for use as a life-ring marker light, shall be of a type described in this specification.

§ 161.010-3 Materials.

(a) *Materials.* All materials shall be of suitable quality for the purpose intended, and shall conform to the requirements of this specification.

(1) All metal parts of the light, including the bracket, shall be made of corrosion resistant materials. When used in this specification, the terms corrosion resistant material or corrosion resistant metal shall mean material which, when subjected to the test described in § 161.010-5(b)(10) shows no evidence of corrosion or corrosive action, such evidence to be in excess of six spots per square foot of area or any spot measuring larger than one-sixteenth inch in any direction.

(2) *Plastics:*

(i) All plastic materials shall be fully cured and essentially free from volatile plasticizers or fillers. Thermosetting plastics shall be used whenever practicable

for parts under constant stress. Thermoplastic materials, whenever used, shall be of a formulation that has high resistance to cold flow, shrinkage, and warpage, or discoloration due to heat and sunlight.

(ii) Materials used for embedding and encapsulating shall not, either in their original application or as a result of aging, have any injurious effect on the insulating materials to which they are applied and shall not cause corrosion or deterioration of any adjacent part. Unless otherwise specified, compounds shall be in accordance with MIL-I-16923 or specifically approved by the Commandant. The conditions under which these materials are applied and used shall in all respects conform to the manufacturer's recommendations. Compounds selected shall not flow at temperatures below 85° Centigrade nor crack or become loose at temperatures down to minus 54° Centigrade.

(3) The choice of material used when none is specified or where a choice is permitted shall be such that maximum resistance to corrosion, shock, and temperature change will be insured. The use of dissimilar materials in combination shall, in general, be avoided, but when such contacts are necessary, means shall be taken to prevent such deleterious effects as galvanic corrosion, freezing or buckling of parts, and loosening or tightening of joints due to differences in coefficients of thermal expansion or shrinkage.

§ 161.010-4 Construction and performance.

(a) *General.* The light shall be a self-contained unit suitable for use as a floating illuminated marker. It shall be capable of being stowed in an inverted position, in which position it shall be self extinguishing. When in water, it shall float in a vertically upright position and become illuminating automatically. When floating vertically in water and tested in accordance with § 161.001-5(b)(3), the center of the lamp or flashtube shall be not less than 3 inches above the surface of the water.

(b) *Construction.* The light shall consist essentially of a case, embedding and filler material, battery, switch, electric circuit, flashtube or lamp assembly and spare lamp, globe, lanyard attachment ring and a mounting bracket. The light shall be watertight and vapor proof, and shall comply with the requirements specified herein.

(c) *Size.* The size, weight and shape of the light shall be suitable for conveniently throwing overboard attached to a life-ring buoy by means of a lanyard.

(d) *Case.* The case shall be made of corrosion resistant metal or plastic as specified in this subpart. The case shall be constructed to receive the components necessary to produce the required light output and withstand the tests specified in § 161.010-5. Additional signaling devices may be incorporated within or outside the case: *Provided,* The use of such signaling devices does not interfere with the required light output. Openings in the case shall be provided with a seal which will withstand the water-tightness test. Threaded joints,

when provided, shall be made with at least six threads of 16 threads per inch gauge. A lanyard attachment ring shall be permanently attached to the case in such a manner as to withstand the test specified in § 161.010-5(b)(9) without destroying the watertightness or otherwise causing damage to the light.

(e) *Globe.* The globe shall be made of a colorless, glass or plastic and shall be reasonably free from bubbles, striae, checks, scratches or other optical or mechanical defects. The globe design shall be such that light is emitted as specified in paragraphs (r)(3), (s)(3) of this section as applicable. The globe thickness shall be sufficient to withstand the impact test specified in § 161.010-5(b)(5) without any damage. As a result of the accelerated weathering test specified in § 161.010-5(b)(7), the globe shall not have crazed or appreciably discolored.

(f) *Filler material.* A unicellular polyfoam plastic or other material specifically approved by the Commandant shall fill all void space between the base of the globe and the space reserved for the battery.

(g) *Ballast.* Ballast, when required to insure the flotation stability of the light and a high righting moment, shall be firmly secured in the lower portion of the case. A spacer shall be installed to separate the battery from the ballast and to act as a shock absorber for the battery.

(h) *Finish of light.* External parts of the light other than the lens shall be international orange as described by color code 12197 of the Federal Standard Number 595, "Colors". When the pigment in the plastic is not the required international orange the exterior surface shall be properly cleaned and prepared, and coated with two coats of international orange enamel in accordance with Federal Specification TT-E-489. The finish shall be uniform and smooth, shall adhere firmly, and withstand reasonable impact without chipping or cracking.

(i) *Mounting bracket.* The mounting bracket shall be designed to hold the light in the inverted position and prevent free movement of the light when properly secured within the bracket. The bracket shall permit quick release of the light and shall not have a lens shield or light cover. The bracket shall be made of corrosion resistant metal and shall be arranged for mounting on a vertical surface. The type and color of finish is optional.

(j) *Ring for lanyard attachment.* The ring for the lanyard attachment shall be approximately 1 inch in diameter and made of corrosion resistant material. The ring and attachment shall be capable of withstanding the test specified in § 161.010-5(b)(9) without separating.

(k) *Dimensional stability and vaporproofness.* The light complete with battery shall be capable of undergoing the test specified in § 161.010-5(b)(6) without any damage, shrinkage, or distortion which might impair its serviceability, watertightness, or vaporproofness. The

light shall be considered vaporproof when examination of the interior after the specified test reveals no moisture and no fog or cloudiness of the lens.

(l) *Watertightness.* The light shall be watertight and shall show no leakage of water into its interior when tested in accordance with §§ 161.010-5(b)(3) and (4).

(m) *Ruggedness.* The light complete with battery shall be capable of withstanding the tests specified in § 161.010-5 without any damage or distortion which might impair its serviceability or watertightness.

(n) *Battery.* The light shall derive its source of electrical power from a self contained battery with screw post terminals. The battery shall be compatible with the electronic circuit and shall be of a type manufactured in accordance with Military Specification MIL-B-18 or Federal Specification W-B-101. The battery shall provide sufficient power to the light so that the unit operates as required by paragraph (q)(3), (r)(3), or (s)(3) of this section, as applicable. The battery shall be installed in the case such that it will be stowed in a position as recommended by the battery manufacturer. Other type power sources and batteries not manufactured in accordance with the referenced specifications will be given special consideration.

(o) *Lead wires and battery connectors.* Battery connectors shall be suitable for battery screw post terminals. When two wires are provided for battery connections, the wires shall be arranged, color coded, or marked so as to prevent improper connections. Other arrangements will be given special consideration by the Commandant.

(p) *Switch.* A suitable switch shall be provided and encapsulated with the electronic circuitry where applicable such that with the light in the upright position the contacts will be closed and with the light inverted the contacts will be open. If no electronic circuit is provided, a clip shall securely hold the switch and shall be so designed and so protected that jarring of light will not crack or destroy the switch. The switch shall be designed to satisfactorily make and break the electrical circuit within a temperature range of minus 30° to plus 160° Fahrenheit. The switch shall be so designed to prevent the accidental making of the contacts when the inverted light is jarred or shaken. The switch shall be capable of 1,000 cycles with the energized electrical circuit specified herein.

(q) *Stroboscopic flashing light.* A flashing light with a capacitor-discharge xenon flashtube shall meet the requirements of this paragraph.

(1) *Electronic flashing unit.* A suitable electronic solid state circuit shall be provided which will take power from a battery specified in paragraph (n) of this section and supply it to the flashtube in a manner as to emit intermittent flashes of light as specified in paragraph (q)(3) of this section. Electrolytic capacitors shall not be used. The power to the flashtube shall not exceed the rated power as specified by the flashtube

manufacturer. The average service life of the electronic circuit shall not be less than 500 hours. All components of the flashing unit excluding the flashtube shall be embedded in an encapsulating compound as specified in this subpart.

(2) *Flashtube.* A suitable capacitor-discharge xenon flashtube shall be provided which is compatible with the electronic flashing circuit and lens and provide the light output as specified in subparagraph (3) of this paragraph. The installation of the flashtube shall be as recommended by the flashtube manufacturer. The lower section of the flashtube may be encapsulated with the electronic circuit or suitably supported in a tube socket. The average service life of the tube shall not be less than 500 hours when connected to the circuit provided in accordance with subparagraph (1) of this paragraph.

(3) *Light output.* The light shall emit flashes of light at a frequency of not less than 50 nor more than 70 flashes per minute for a period of not less than 15 hours. The light output shall be not less than 0.2 candela-seconds per flash in all directions of the upper hemisphere with the globe in place.

(r) *Flashing incandescent light.* A flashing incandescent light shall meet the requirements of this paragraph.

(1) *Electronic flashing unit.* A suitable electronic solid state circuit shall be provided which will take power from a battery specified in paragraph (n) of this section and supply it to the flash lamp in a manner as to emit intermittent flashes of light as specified in subparagraph (3) of this paragraph. The power to the flash lamp shall not exceed the rated power specified by the flash lamp manufacturer. The average service life of the electronic circuit shall not be less than 500 hours. All components of the flashing unit excluding the flash lamp shall be embedded in an encapsulating compound as specified in this subpart.

(2) *Flash lamp.* A flash lamp shall be provided which is compatible with the electronic flashing circuit and globe to provide the light output specified in subparagraph (3) of this paragraph. The average service life of flash lamp shall be not less than 75 hours when connected to the circuit provided in accordance with subparagraph (1) of this paragraph. A spare lamp shall be carried in the interior portion of the light.

(3) *Light output.* The light shall emit flashes at a frequency of not less than 50 or more than 70 flashes per minute for a period of not less than 15 hours. The light output shall not be less than 0.4 candela-sec. per flash in all directions of the upper hemisphere with the globe in place.

(s) *Steady burning incandescent light.* A steady burning incandescent light shall meet the requirements of this paragraph.

(1) *Electronic circuit.* A solid state electronic circuit may be provided. The power provided to the lamp shall not exceed 110 percent of the rated power as specified by the lamp manufacturer. The

average service life of an electronic circuit shall not be less than 500 hours. All components of an electronic circuit, including the switch, shall be embedded in an encapsulating compounds as specified in this subpart.

(2) *Lamp.* A lamp shall be provided which is compatible with the power source and globe to provide the light output specified in subparagraph (3) of this paragraph. The average service life of the lamp shall not be less than 75 hours when connected to the circuit as provided. A spare lamp shall be carried in the interior portion of the light.

(3) *Light output.* The intensity of the light shall be not less than 2 candelas in all directions of the upper hemisphere with the globe in place.

(t) *Socket.* The socket shall be as recommended by the manufacturer. It shall be of corrosion resistant material, of durable construction and have suitable electrical clearances. Means shall be provided for minimizing the possibility of the lamp or flashtube becoming loose due to vibration. Flashtubes not requiring sockets may be used provided the terminals are connected by soldering and embedded in an encapsulating compound.

(u) *Electrical connections.* All electrical connections, except those intended to be removable, shall be mechanically secured and soldered and shall not depend on solder alone for mechanical strength. Where electrical connections are in close proximity, each shall be electrically insulated.

§ 161.010-5 Inspection and methods of test.

(a) *Inspection.* The U.S. Coast Guard reserves the right to make any inspection or test it deems necessary to determine the conformance of the materials and equipment to this specification.

(1) The facilities, materials and labor for all tests shall be furnished by the manufacturer at no cost to the U.S. Coast Guard. When testing facilities are not available at the point of inspection, testing may be completed by a mutually acceptable independent testing organization.

(b) *Methods of tests.* The following tests shall be conducted in the order listed below insofar as is reasonable and practicable.

(1) *Endurance test.* The electronic circuit shall be operated at rated voltage for 500 hours. The light, complete with battery, shall be alternately inverted and righted 1,000 times and examined for proper operation.

(2) *Drop test.* The light complete with battery, shall be dropped twice from a height of 90 feet into water. A life-ring buoy shall be attached to the light by means of a lanyard 6 feet in length during one of the drops. After each drop, the light shall be examined for leakage, cracks, or breakage. The light shall operate satisfactorily after each drop.

(3) *Float test.* The light, complete with battery, shall be allowed to float for 15 hours in water with the light floating as specified in § 161.010-4(a). The light shall be disassembled after the test and examined for conformance with the requirements of § 161.010-4(l).

(4) *Watertightness test.* The light, complete with battery, shall be submerged horizontally in water at a head of 1 foot for a period of 24 hours. At the end of the period the light shall be disassembled and examined for conformance with the requirements of § 161.010-4(l).

(5) *Ruggedness.* The light, complete with battery, shall be cooled to 0° F. It shall be dropped twice from a height of 3 feet onto a rigidly mounted steel plate or concrete; the distance of 3 feet shall be measured from the top of the lens to impact surface. When dropped, the light shall strike on the top center of the lens. The case shall be placed in its bracket, and the bracket mounted securely and positioned so the light is lying in a horizontal position. A steel ball 1¼ pounds in weight shall be allowed to fall three times, through a distance of 48 inches; once onto the center portion of the case, once at each end onto a point approximately one-half inch from the end of the case. The case shall be examined for breakage, or cracking in accordance with paragraph (m) of § 161.010-4. Failure of lamp filament shall not constitute failure of light.

(6) *Dimensional stability and vapor-proof test.* The light assembled with battery shall be placed in a temperature-humidity chamber. The unit shall then be subjected to a 9-day continuous temperature-humidity cycle shown in Table 161.010-5(b)(6) without opening the light during the cycle. At the end of the tests the light shall be checked in accordance with § 161.010-4(k). The watertightness test specified in subparagraph (4) of this paragraph shall then be repeated.

TABLE 161.010-5(b)(6)

Time period (hours)	Temperature degrees F (2° F)	Relative humidity percent
24	140	85-90
24	-30	95-100
24	140	0-5
24	140	85-90
24	-30	95-100
48	140	0-5
48	70	45-55

(7) *Weathering tests (plastic globe only).* The globe shall be exposed to five complete cycles of Test Method 6023 and a 240-hour exposure cycle of Test Method 6024 as specified in the Federal Test Method Standard No. 406. The globe shall then be examined for conformance with § 161.010-4(e) and tested for light output in accordance with subparagraph (8) of this paragraph.

(8) *Light output test.* The light output test shall be conducted after the

tests specified in § 161.010-5(b)(7). The intensity and flash rate shall be measured at the end of the required operating period. The light shall meet the intensity requirements specified in § 161.010-4 (q) (3), (r) (3), or (s) (3) as applicable.

(9) *Pull test.* The light shall be adequately supported and a force of 50 pounds shall be applied to the lanyard attachment ring. The light case and lanyard attachment ring shall be examined for compliance with § 161.010-4 (d) and (j).

(10) *Accelerated weathering (metallic parts).* Under ultraviolet light alternate 3 minute cycles of (i) 20 percent salt spray at 55° C. and (ii) air blast at 55° C. without interruption for a period of 200 hours. Metallic parts shall be free of paint or other finish during this test.

§ 161.010-6 Marking.

(a) *Instructions and nameplate.* Each light shall be provided on the outside with a brass or plastic plate containing instructions for the maintenance and care of the light. The instructions shall be clearly marked in a plain, easily readable, permanent manner. The nameplate data shall contain the name of the manufacturer, the Coast Guard approval number, and the drawing number and alteration identification of the light. In securing the instructions and/or nameplate to the case, the wall of the case shall not be penetrated. The instruction wording shall be compatible to the particular design and shall be acceptable to the Commandant.

§ 161.010-7 Procedure for approval.

(a) Automatic floating electric waterlights are approved only by the Commandant, U.S. Coast Guard, Washington, D.C. 20591.

(b) Manufacturer's plans and specifications: In order to obtain approval of automatic floating waterlights, detailed plans and specifications, including a complete bill of material, assembly drawings, and parts drawings descriptive of the arrangement and construction of the device shall be submitted. Each drawing shall have an identifying drawing number, date, and identification of the device; and the general arrangement or assembly drawing shall include a list of all drawings applicable, together with the drawing numbers and alteration numbers. The manufacturer will be advised whether or not the drawings and specifications appear satisfactory or what corrections appear necessary and then he may proceed with the construction of the preapproval sample in accordance therewith.

(c) Preapproval sample. A preapproval sample together with two copies of the plans, specifications and certified test records shall be submitted to the Commandant, U.S. Coast Guard, 1300 E Street NW., Washington, D.C. 20591.

PART 164—MATERIALS

107. Subpart 164.007 is revised to read as follows:

Subpart 164.007—Structural Insulations

Sec.	Applicable specification and referenced material.
164.007-1	Purpose.
164.007-2	Conditions of approval.
164.007-3	Testing procedure.
164.007-4	Test requirements.
164.007-5	Test report.
164.007-6	Analysis of results.
164.007-7	Retests.
164.007-8	Procedure for approval.

AUTHORITY: The provisions of this Subpart 164.007 issued under R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2).

Subpart 164.007—Structural Insulations

§ 164.007-1 Applicable specification and referenced material.

(a) **Specification.** The following specification of the issue in effect on the date of manufacture of the structural insulation shall form a part of the regulations of this subpart (see §§ 2.75-17 through 2.75-19 of Subchapter A (Procedures Applicable to the Public) of this chapter:

(1) Coast Guard specification:

Subpart 164.009 of this part, Incombustible Materials for Merchant Vessels.

(b) **Technical reference.** For guidance purposes the technical reference may be used, which is entitled American Society for Testing Materials Standard E-119, "Fire Tests of Building Construction and Materials", ASTM, 1916 Race Street, Philadelphia, Pa. 19103.

(c) **Copies on file.** A copy of the specification listed in paragraph (a) of this section shall be kept on file by the manufacturer, together with the certificate of approval and this specification. It is the manufacturer's responsibility to have the latest issue of the specification on hand together with the certificate of approval and approved plans when manufacturing under this specification subpart.

(1) The Coast Guard specification may be obtained from the Commandant (MMT), U.S. Coast Guard, Washington, D.C. 20591.

§ 164.007-2 Purpose.

The purpose of this specification is to set forth tests necessary to measure the insulation value of structural insulation specimens under fire exposure conditions. The tests are not intended to measure the integrity of structural components of an assembly. Insulation meeting this specification is adequate to limit the average temperature rise of a steel bulkhead to 139° C. (250° F.) at the end of a 60-minute standard fire test.

§ 164.007-3 Conditions of approval.

(a) Structural insulation shall be of such quality as to successfully meet the requirements for an incombustible material as set forth in Subpart 164.009 of this part.

(b) Structural insulation shall be of such quality and thickness as to successfully pass all of the tests set forth in § 164.007-4, and the retests required by § 164.007-8.

(c) The product shall be so marked as to be readily identifiable to an inspector in the field. The marking shall include the Coast Guard approval number.

§ 164.007-4 Testing procedure.

(a) **Tests.** All tests, including the retests, shall be conducted at the National Bureau of Standards or other laboratories designated by the Coast Guard.

(b) **Test of physical properties.** (1) **Density measurement:** The smallest sample for density measurements of solid materials shall be 30 cm. x 30 cm. (12" x 12") by the submitted thickness. Length and width measurements shall be made to the nearest 1 mm. ($\frac{1}{32}$ "), thickness to the nearest 0.25 mm. (0.01"), 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 1.5 mm. ($\frac{1}{16}$ ") on a nominal 30 cm. (12") cube assembled from sheets of thickness as received. The average of at least four measurements of each dimension shall be reported. The weight shall be determined with a scale 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 23°±1° C. (73° F.±2°) and 50 percent relative humidity.

(2) Transfer to a previously dried and weighed wide-mouth weighing bottle provided with a glass stopper. Remove the stopper and heat the bottle and sample at 105°±5° C. (221°±9° F.) 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.

(c) **Preparation of fire test specimens.** (1) The fire test specimens shall be conditioned to approximately constant weight with air being maintained at a relative humidity of 40 to 70 percent and a temperature of 15° to 25° C. (59° to 77° F.). After conditioning, but before testing, the temperature of the specimens shall not exceed 40° C. (104° F.).

(2) Representative samples of the structural insulation, of a thickness or thicknesses and density as specified in § 164.007-9(a) (5), shall be tested as part of an assembly which forms a portion of a vertical wall of a furnace. The assembly shall be at least 100 cm. x 150 cm. (40" x 60") in size. More than one sample may be tested, see § 164.007-7.

(3) The specimens shall be attached to a 5±0.3 mm. ($\frac{3}{16}$ ") thick steel plate and mounted in the furnace with the steel plate forming the exterior wall of the furnace. Any stiffening members on the steel plate shall be installed on the face not adjacent to the insulation. Spacer strips of asbestos cement board or similar material, up to 5 cm. (2") in width, shall be installed around the

periphery of the panel. For fibrous insulations, the attachment to the steel plate shall be made by means of 5 mm. (0.19") diameter steel pins on 30 cm. (12") centers covered by 18-gage, 4 cm. (1½") mesh expanded metal. Alternate methods will be given consideration. For other materials, typical installation practice shall be used.

(d) **Furnace control.** (1) The furnace temperature shall be determined by at least four mineral insulated thermocouples having rapid response, and distributed so as to represent fairly the furnace temperature and to insure as uniform heating as possible. The thermocouples shall be arranged so that the hot junction is approximately 10 cm. from the nearest point of the specimen.

(2) The furnace temperature shall be continuously controlled so as to follow the standard time-temperature curve within the accuracy specified in subparagraph (4) of this paragraph.

(3) The standard time-temperature curve is defined by a smooth curve drawn through the following points:

At the beginning of the test, 20° C. (68° F.).
At the end of the first 5 minutes, 538° C. (1,000° F.).
At the end of the first 10 minutes, 704° C. (1,300° F.).
At the end of the first 30 minutes 843° C. (1,550° F.).
At the end of the first 60 minutes, 927° C. (1,700° F.).

For a further definition of the time-temperature curve, see Appendix I of the ASTM Standard E-119, "Fire Tests of Building Construction and Materials".

(4) The accuracy of the furnace control shall be such that the area under the mean time-temperature curve is within 15 percent of the area under the standard time-temperature curve during the first 10 minutes of the test, within 10 percent during the first one-half hour, and within 5 percent for any period after the first one-half hour. At any time after the first 10 minutes of the test the mean furnace temperature shall not differ from the standard curve by more than 100° C. (180° F.). Consideration will be given to adjusting the results for variation of the furnace exposure from that prescribed. If corrections are made, they shall be in accordance with the procedures set forth in the ASTM E-119.

(e) **Temperature of unexposed surface.** For the unexposed surface temperature measurement a thermocouple of 0.5 mm. (0.020") diameter wires shall be soldered centrally with high temperature solder to one surface of a disc of copper 12 mm. in diameter and 0.2 mm. thick. The discs shall be covered with an oven-dry asbestos pad 50 mm. x 50 mm. and 4 mm. thick. The disc and the pad may be fixed to the surface of the steel plate by pins, tape, or a suitable adhesive. The asbestos pad shall have a density of approximately 1,000 kg./m.³ and thermal conductivity of 0.11 kcal/m/hr. x ° C. at 100° C. (212° F.).

(f) **Temperature observations.** (1) All observations shall be taken at intervals not exceeding 5 minutes. The surface temperature on the exterior side of the

steel plate shall be measured by thermocouples located as follows:

(i) One thermocouple located approximately in the center of each quadrant of the steel plate (four thermocouples total).

(ii) One thermocouple close to the center of the steel plate.

(iii) One thermocouple in way of or as close as possible to one of the pins or other through metallic connections (if any) used for holding the insulation in place.

(iv) Further thermocouples at the discretion of the testing laboratory or Coast Guard for the purpose of determining the temperature at points deemed likely to give a greater temperature rise than any of the above-mentioned thermocouples.

(2) The average temperature rise on the unexposed surface shall be obtained by averaging the readings of the thermocouples mentioned in subdivisions (i) and (ii) of subparagraph (1) of this paragraph.

(g) *Other observations.* Throughout the test observations shall be made of all changes and occurrences, which are not criteria of performance, but which may create hazard in case of a fire; for example the emission of appreciable volumes of smoke or noxious vapors from the unexposed side of the test specimen. The specimen shall be examined after the test for changes that have taken place and the information shall be noted in the test report.

(h) *Duration of testing.* The test shall be continued for at least one hour or until the maximum surface temperature rise values noted in § 164.007-5(a) have been reached, whichever occurs later.

§ 164.007-5 Test requirements.

The insulation value of the specimens for the full scale test shall be such that the average temperature of the thermocouples on the unexposed surface described in § 164.007-4(f) (2) will not rise more than 139° C. (250° F.) above the initial temperature, nor will the temperature at any one point on the surface, including any through metallic connection, rise more than 181° C. (325° F.) above the original temperature at the end of 60 minutes. The results obtained on the small scale test 2' x 2' (60 cm. x 60 cm.) shall be recorded.

§ 164.007-6 Test report.

(a) The test report required shall contain at least the following:

- (1) Name of manufacturer.
- (2) Purpose of test.
- (3) Test conditions and date of test.
- (4) Description of the panel tested giving the details of the assembly comprising a steel plate, insulation (thickness and density) spacer strips and fastening and the method of mounting the panel assembly in the test furnace.
- (5) Complete time-temperature data, including initial temperature, for each thermocouple together with curves of average temperature for the unexposed surface of the insulation and the thermocouple recording the highest temperature.

In addition, for § 164.007-9(g) (2), complete time-temperature data consisting of a numerical time-temperature table for each furnace and each surface of insulation thermocouple together with the initial temperature of each thermocouple.

(6) A log maintained by the owner 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.

(7) Photographs of both sides of the panel before and after testing.

(8) Summary of test results.

§ 164.007-7 Analysis of results.

(a) When only one sample is tested, the results of the test shall be binding and no analysis by the Coast Guard will be undertaken.

(b) When more than one sample of the same density material is tested simultaneously and the results are not exact, the Coast Guard may analyze the results. Data from the tests may be analyzed to determine the minimum thickness to meet the requirements of § 164.007-5(a).

(c) Consideration will be given to correction for inaccurate furnace control in accordance with § 164.077-4(d) (4).

§ 164.007-8 Retests.

(a) Manufacturers of approved structural insulation shall maintain quality control of materials used, manufacturing methods, and the finished product utilizing appropriate quality control testing so as to meet the requirements of this specification, and any other conditions outlined on the certificate of approval. Structural insulation materials are not inspected at regularly scheduled factory inspections; however, approved materials are subject to retest for continued compliance with the requirements of this subpart on the following basis:

(1) The Coast Guard may detail a marine inspector or other Coast Guard designated 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 inspector shall be admitted to any place where work is done on structural insulation or component materials.

(2) At a frequency of not less than once every 5 years following issuance of approval, samples of an approved material selected from production stock shall be forwarded by the inspector to the Commandant for testing in accordance with the requirements of this subpart. Where the plant is outside the jurisdiction of a Coast Guard District Commander, the frequency of such testing shall be once every 2 years. The cost of such testing shall be borne by the manufacturer. The nature of the product or its production may dictate a differing retest frequency.

(3) The Coast Guard reserves the right to make spot-check tests of approved structural insulation at any time on samples selected by a marine in-

spector obtained during installation on a vessel. The manufacturer will incur no expense for such tests, but the results, shall be binding upon the approval of his product.

(b) A small scale furnace test (2' x 2' furnace test 60 cm. x 60 cm.) shall be conducted. The time of failure shall not vary from the original small scale test values by more than 10 percent. In addition tests shall be conducted to determine incombustibility (§ 164.009), density and thickness. Values of retesting for density and thickness shall not vary from the original test values by more than 10 percent.

§ 164.007-9 Procedure for approval.

The following items shall be accomplished in sequential order.

(a) *Test request information.* If a manufacturer desires to have a structural insulation approved, a written request shall be submitted 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 of this part, the approval number of the material shall be indicated. If not, the procedure set forth in Subpart 164.009 of this part 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 the thickness and density proposed by the manufacturer to be tested. When more than one thickness of a material of the same density is to be tested, only a sample of a single thickness need be submitted.

(5) The range of thicknesses and densities in which it is proposed to manufacture or use the material together with any information or recommendations that the manufacturer may have as to maximum or minimum thickness or density.

(6) The location of the place or places 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.

(8) A sketch showing typical installation methods and indicating limitations, if any.

(9) A general statement describing manufacturing procedures indicating the degree of quality control exercised and the degree of inspection performed by outside organizations.

(10) A statement indicating proposed methods for field identification of the products as being approved. Identification shall include the Coast Guard approval numbers.

(b) *Test suitability.* The above information will be examined by the Coast Guard, and if it is indicated that the material is in all respects suitable for testing, the manufacturer will be so advised.

Coast Guard comments on the manufacturer's recommended thickness and density of the sample or samples for the fire resistance test will be given at this time, together with the estimated cost of the required test.

(c) *Samples to be submitted.* If the material is indicated as being suitable for testing, the manufacturer shall submit a 100 cm. x 150 cm. (40" x 60") sample, a 30 cm. x 30 cm. (12" x 12") sample and a 60 cm. x 60 cm. (24" x 24") sample for each thickness and density proposed 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) *Pretest information.* At this time the manufacturer shall submit to the Coast Guard the following:

(1) A statement that the material is offered for testing 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 and that the shipbuilder will be advised of the proper installation methods and the limitations of the approval.

(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) *Test authorization.* The National Bureau of Standards will then be authorized to conduct the tests noted in § 164.007-4 and, upon completion of all testing, the manufacturer will be billed directly by the National Bureau of Standards. Four copies of the test report containing the information required by § 164.007-6 will be submitted to the Coast Guard.

(f) *Notification of results.* 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) *Other laboratories.* (1) If the manufacturer desires to have the test 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 any estimated cost of expenses incurred by the National Bureau of Standards for their review will be specified at this time. The Coast Guard shall be notified in advance of the date of the test so that a representative may be present.

(2) The laboratory shall submit four copies of a detailed test report to the Coast Guard together with representative samples of the material taken be-

fore 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 information required by § 164.007-6 together with any other pertinent data.

108. Subpart 164.008 is revised to read as follows:

Subpart 164.008—Bulkhead Panels

Sec.	
164.008-1	Applicable specification and reference material.
164.008-2	Conditions of approval.
164.008-3	Testing procedure.
164.008-4	Test requirements.
164.008-5	Test report.
164.008-6	Retests.
164.008-7	Procedure for approval.

AUTHORITY: The provisions of this Subpart 164.008 issued under R.S. 4405, as amended, 4462, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2).

Subpart 164.008—Bulkhead Panels

§ 164.008-1 Applicable specification and reference material.

(a) *Specification.* The following specification of the issue in effect on the date of manufacture of the bulkhead panel shall form a part of the regulations of this subpart (see §§ 2.75-17 through 2.75-19 of Subchapter A, Procedures Applicable to the Public, of this chapter):

(1) Coast Guard specification:

Subpart 164.009 of this part, Incombustible Materials for Merchant Vessels.

(b) *Technical reference.* For guidance purposes this technical reference may be used, which is entitled American Society for Testing Materials Standard E-119, "Fire Tests of Building Construction and Materials", ASTM, 1916 Race Street, Philadelphia, Pa. 19103.

(c) *Copies on file.* A copy of the specification listed in paragraph (a) of this section shall be kept on file by the manufacturer, together with the certificate of approval and this specification. It is the manufacturer's responsibility to have the latest issue of the specification on hand together with the certificate of approval and approved plans when manufacturing under this specification subpart.

(1) The Coast Guard specification may be obtained from the Commandant (MMT), U.S. Coast Guard, Washington, D.C. 20591.

§ 164.008-2 Conditions of approval.

(a) Bulkhead panel material shall be of such quality as to successfully meet the requirements for an incombustible material as set forth in Subpart 164.009 of this part.

(b) Bulkhead panels used in Class B-15 construction and as a component in Class A-30 or Class A-15 construction shall meet the thermal insulation requirements of § 164.008-4(a) for at least 15 minutes, and the integrity requirements of § 164.008-4(b) for at least 30 minutes.

(c) Bulkhead panels for use as a component in Class A-60 construction shall

meet the thermal insulation requirements of § 164.008-4(a) for at least 15 minutes and the integrity requirements of § 164.008-4(b) for at least 60 minutes.

(d) The product shall be so marked as to be readily identifiable to an inspector in the field. The marking shall include the Coast Guard approval number.

(e) The specimen to be tested shall be representative of the typical installation on board a vessel and any limitations shall be shown on the sketch required by § 164.008-7(a) (7).

(f) The bulkhead panel shall successfully pass the retests required by § 164.008-6.

§ 164.008-3 Testing procedure.

(a) *Tests.* All tests, including the retests, shall be conducted at the National Bureau of Standards or other laboratories designated by the Coast Guard.

(b) *Preparation of test specimen.* (1) The test specimens shall be conditioned to approximately constant weight with the air being maintained at a relative humidity of 40 to 70 percent and a temperature of 15° to 25° C. (59° to 77° F.). After conditioning, but before testing, the temperature of the specimen should not exceed 40° C. (104° F.).

(2) The specimens shall be mounted in the furnace in a vertical position in such a way as to give an exposed surface of at least 4.65 square meters (50 square feet) and a height of at least 2.44 meters (8 feet).

(3) The specimen shall be supported at the top and secured on the vertical sides and at the bottom in a manner representative of conditions in service. If provision for movement at the edges of a bulkhead panel is made for a particular construction in service, the specimen should stimulate these conditions.

(4) The method of securing shall be such that there is no possibility of misinterpretation of test results due to the passage of flame at the edges of the specimen when the method of fixing is not the subject of the test.

(c) *Furnace control.* (1) The furnace temperature shall be determined by at least four mineral insulated thermocouples having rapid response and distributed so as to represent fairly the furnace temperature and to insure as uniform heating as possible. The thermocouples shall be arranged so that the hot junction is approximately 10 cm. (4") from the nearest point of the specimen.

(2) The furnace temperature shall be continuously controlled so as to follow the standard time-temperature curve within the accuracy specified in subparagraph (4) of this paragraph.

(3) The standard time-temperature curve is defined by a smooth curve drawn through the following points:

At the beginning of the test, 20° C. (68° F.).
At the end of the first 5 minutes, 538° C. (1,000° F.).
At the end of the first 10 minutes, 704° C. (1,300° F.).
At the end of the first 30 minutes, 843° C. (1,550° F.).
At the end of the first 60 minutes, 927° C. (1,700° F.).

For a further definition of the time-temperature curve, see Appendix I of the ASTM Standard E119, "Fire Tests of Building Construction and Materials".

(4) The accuracy of the furnace control shall be such that the area under the mean time-temperature curve is within 15 percent of the area under the standard curve during the first 10 minutes of the test, within 16 percent during the first one-half hour, and within 5 percent for any period after the first one-half hour. At any time after the first 10 minutes of the test the mean furnace temperature shall not differ from the standard curve by more than 100° C. (180° F.). Consideration will be given to adjusting the results for variation of the furnace exposure from that prescribed. If corrections are made, they shall be in accordance with the procedures set forth in ASTM E-119.

(5) The pressure in the furnace shall be equal to that in the laboratory at about one-third of the height of the specimen.

(d) *Temperature of unexposed surface.* For the unexposed surface temperature measurement, a thermocouple of 0.5 mm. (0.020") diameter wires shall be soldered centrally with high temperature solder to one surface of a disc of copper 12 mm. diameter and 0.2 mm. thick. The disc shall be covered with an oven-dry asbestos pad 50 mm. x 50 mm. and 4 mm. thick. The disc and the pad may be fixed to the surface of the specimen by pins, tape or a suitable adhesive, depending on the nature of the specimen material. The asbestos pad shall have a density of approximately 1,000 kg./m.³ and thermal conductivity of 0.11 kcal./m./hr. x C. at 100° C. (212° F.).

(e) *Flame penetration.* (1) Where cracks or openings are formed during the test, an ignition test as prescribed in § 164.008-4(b) shall take place immediately after the appearance of cracks or damage, followed by similar tests at frequent intervals. The purpose of the test is to indicate whether cracks and openings formed during the test are such that they would lead to passage of flame.

(2) The cotton wool used for the tests prescribed in § 164.008-4(b) shall consist of new undyed soft fibers without any admixture of artificial fibers, and shall be free from thread, leaf, and shell fiber dust. A suitable material for this purpose is sold in the form of rolls for surgical use. A pad shall be cut measuring 10 cm. x 10 cm. approximately 2 cm. thick and weighing between 3 and 4 grams. It shall be oven-dried prior to the test. The pad shall be attached by means of wire clips to a 10 cm. x 10 cm. frame of 1 mm. diameter. A wire handle approximately 75 cm. long attached to the frame would facilitate its use on the specimen.

(3) When testing for cracks or openings during the test, the pad shall be held in a vertical position facing the crack or opening with the aperture located in a central part of the cotton wool. The pad may be reused if it has not absorbed any moisture or become

charred during the previous application.

(f) *Temperature observations.* (1) All observations shall be taken at intervals not exceeding 5 minutes. The surface temperatures on the unexposed side of the test specimen shall be measured by thermocouples located as follows:

(i) One thermocouple located approximately in the center of each quadrant of the steel plate (four thermocouples total).

(ii) One thermocouple close to the center of the test specimen, but away from the joint, if any.

(iii) At least one thermocouple at the vertical joint of the test specimen.

(iv) Further thermocouples at the discretion of the testing laboratory or Coast Guard for the purpose of determining the temperature at points deemed likely to give a greater temperature rise than any of the above mentioned thermocouples.

(2) The average temperature rise on the unexposed surface shall be obtained by averaging the readings of the thermocouples mentioned in subdivisions (i) and (ii) of subparagraph (1) of this paragraph.

(g) *Other observations.* Throughout the test, observations shall be made of all changes and occurrences, which are not criteria of performance but which may create hazard in case of a fire; for example the emission of appreciable volumes of smoke or noxious vapors from the unexposed side of the test specimen. The specimen shall be examined after the test for changes that have taken place and the information shall be noted in the test report.

(h) *Duration of testing.* 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 be continued until the maximum surface temperature rise values noted in § 164.008-4(a) have been reached, or until cracks which lead to flaming as specified in § 164.008-4(b) are formed.

§ 164.008-4 Test requirements.

(a) *Thermal insulation:* The insulation value of the specimens for the full scale test shall be such that the average temperature of thermocouples on the unexposed surface described in § 164.008-3(f) (2) will not rise more than 139° C. (250° F.) above the initial temperature, nor will the temperature at any point on the surface, including any joint, rise more than 225° C. (405° F.) above the initial temperature at the end of 15 minutes. When failure is due to excessive temperature rise on the joint, consideration will be given to alternate joint construction. The results obtained on the small scale test (2' x 2') (60 cm. x 60 cm.) shall be recorded.

(b) The test shall determine the length of time, up to one hour, that the bulkhead panel, including the joint can withstand the passage of flame. Cracks and openings shall not be such as to lead to flaming of a cotton wool test pad as prescribed in § 164.008-3(e) (3) held fac-

ing the aperture at about 25 mm. for a period of 30 seconds. If no flaming occurs, the pad shall be removed and re-applied after a suitable interval.

§ 164.008-5 Test report.

(a) The test report required by § 164.008-7 (e) and (g) shall include at least the following:

(1) Name of manufacturer.
(2) Purpose of test.
(3) Test conditions and date of test.
(4) Description of the panel tested giving size, thickness, density, detail of joint and method of assembling in test furnace.

(5) Complete time-temperature data, including initial temperature, for each thermocouple together with curves of average temperature for the unexposed surface of the insulation and the thermocouple recording the highest temperature. In addition, for § 164.008-7(g) (2) complete time-temperature data consisting of a numerical time-temperature table for each furnace and each surface insulation thermocouple together with the initial temperature of each thermocouple.

(6) A log setting forth the observer's notes relative to deflections, smoke or gas emission, glow, flame emission, and any other important data. The time of each observation should be noted.

(7) Complete observations on the appearance of cracks and data on the testing of the cracks as specified in § 164.008-4(b).

(8) Photographs of both sides of the panel before and after testing.

(9) Summary of test results.

§ 164.008-6 Retests.

(a) Manufacturers of approved bulkhead panels shall maintain quality control of materials used, manufacturing methods, and the finished product utilizing appropriate quality control testing so as to meet the requirements of this specification, and any other conditions outlined on the certificate of approval. Bulkhead panels are not inspected at regularly scheduled factory inspections; however, approved bulkhead panels are subject to retest for continued compliance with the requirements of this subpart on the following basis:

(1) The Coast Guard may detail a marine inspector or other Coast Guard designated inspector at any time to visit any place where bulkhead panels are manufactured to conduct any inspections or examinations deemed advisable and to select representative samples for further examination, inspection, or tests. The inspector shall be admitted to any place where work is done on bulkhead panels or component materials.

(2) At a frequency of not less than once every 5 years following issuance of approval, samples of an approved bulkhead panel selected from production stock shall be forwarded by the inspector to the Commandant for testing in accordance with the requirements of this subpart. Where the plant is outside the jurisdiction of a Coast Guard District Commander, the frequency of such selec-

tion and testing shall be every 2 years. The cost of such testing shall be borne by the manufacturer. The nature of the product or its production may dictate a differing retest frequency.

(3) The Coast Guard reserves the right to make spot-check tests of approved bulkhead panels at any time on samples selected by a marine inspector obtained during installation on a vessel. The manufacturer will incur no expense for such tests, but the results shall be binding upon the approval of his product.

(b) A small scale furnace test (2' x 2' furnace test) shall be conducted. The time of failure shall not vary from the original (2' x 2' furnace) test values by more than 10 percent. In addition, tests shall be conducted to determine incombustibility (§ 164.009), density and thickness. Values on retesting for density and thickness shall not vary from the original test values by more than 10 percent.

§ 164.008-7 Procedure for approval.

The following items shall be accomplished in sequential order.

(a) *Test request information.* If a manufacturer desires to have a bulkhead panel approved, a written request shall be submitted 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 of this part, the approval number of the material shall be indicated. If not, the procedure set forth in Subpart 164.009 of this part 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 maximum or minimum thickness or density.

(6) The location of the place or places where the material will be manufactured.

(7) A sketch showing typical installation methods and indicating limitations, if any.

(8) A general statement describing manufacturing procedures indicating the degree of quality control exercised and the degree of inspection performed by outside organizations.

(9) A statement indicating proposed methods for field identification of the products as being approved. Identification shall include the Coast Guard approval number.

(b) *Test suitability.* The above information will be examined by the Coast Guard and if it is indicated that the material is in all other respects suitable for testing, the manufacturer will be so

advised. Coast Guard comments on the manufacturer's recommended thickness and density of the panel for the fire resistance and integrity test will be given at this time together with the estimated cost of the tests.

(c) *Samples to be submitted.* 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 4.65 square meters (50 square feet) and a height of 2.44 meters (8 feet) containing at least one vertical joint, located at approximately one-third panel width from one edge (20-24 inches), and one representative panel of the material having 60 cm. x 60 cm. (2' x 2') dimensions. 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.

(d) *Pretest information.* 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 § 164.008-6(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 and that the shipbuilder will be advised of the proper installation methods and the limitations of the conditions of approval.

(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) *Test authorization.* The National Bureau of Standards will then be authorized to conduct the test noted in § 164.008-4(a) and, upon completion of all testing, the manufacturer will be billed directly by the National Bureau of Standards; four copies of the report containing the information required by § 164.008-5 shall be submitted to the Coast Guard.

(f) *Notification of results.* 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) *Other laboratories.* (1) 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 paragraph (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.

(2) The laboratory shall submit four copies of a detailed test report to the Coast Guard, together with representative samples of the material being 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 information required by § 164.008-5 together with any other pertinent data.

SUBCHAPTER R—NAUTICAL SCHOOLS PART 167—PUBLIC NAUTICAL SCHOOL SHIPS

Subpart 167.35—Lifesaving Equipment

109. Section 167.35-80 is amended by adding paragraph (c) to follow paragraph (b) to read as follows:

§ 167.35-80 Life buoys.

(c) *Waterlights.* All waterlights shall be of a type approved by the Coast Guard or Navy. Waterlights constructed in accordance with Subpart 160.012 or 161.001 of Subchapter Q (Specifications) of this chapter shall not be installed after December 31, 1971, but may be retained as long as they are maintained in good condition.

(R.S. 4405, as amended, 4462, as amended, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b)(1); 49 CFR 1.4(a)(2))

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

PART 175—GENERAL PROVISIONS

Subpart 175.05—Application

110. Section 175.05-1(d) is revised to read as follows:

§ 175.05-1 Vessels subject to the requirements of this subchapter.

(d) *S and L.* Nothing in the regulations in this subchapter shall be construed as exempting, other than a yacht, any mechanically propelled vessel which carries more than 12 passengers on an international voyage from the applicable requirements of the International Convention for Safety of Life at Sea, 1960. The regulations in this subchapter shall not exempt any small passenger vessels from the applicable requirements of the 1966 International Convention on Load Lines.

111. Part 175 is amended by adding a new Subpart 175.07 to read as follows:

Subpart 175.07—Load Lines

§ 175.07-1 Load lines required.

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

(R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 390b, 85a, 88a, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 177—CONSTRUCTION AND ARRANGEMENT

Subpart 177.35—Rails and Guards

§ 177.35-1 [Amended]

112. Section 177.35-1 *Deck rails* is amended by adding in the fourth line of paragraph (b) the words "except as provided by paragraph (f) of this section." to follow the word "inches"; by redesignating the present paragraph (f) as paragraph (g); by redesignating the present paragraph (g) as paragraph (h); and by adding a new paragraph (f) to read as follows:

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

(R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 2, 45 Stat. 1493, as amended, sec. 2, 49 Stat. 888, as amended, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 390b, 85a, 88a, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 180—LIFESAVING EQUIPMENT

Subpart 180.15—Equipment for Life Floats and Buoyant Apparatus

113. Section 180.15-5(d) is revised to read as follows:

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

(d) *Water light.* The water light shall be of an approved type constructed in accordance with Subpart 160.012, 161.001, or 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 160.012 or 161.001 of this chapter shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition.

Subpart 180.30—Ring Life Buoys and Water Lights

114. Section 180.30-1(a) is revised to read as follows:

§ 180.30-1 General.

(a) All ring life buoys and water lights shall be of approved types. Water lights constructed in accordance with Subpart 160.012 or 161.001 of Subchapter Q (Specifications) of this chapter shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition.

(R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 184—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

Subpart 184.15—Navigation Lights and Shapes, Whistles, Fog Horns, and Fog Bells

115. Section 184.15-5 is amended by adding a new paragraph (d) to read as follows:

§ 184.15-5 Light intensity standards.

(d) The light intensity standards of this section shall apply to new navigation lights installed and replacements of existing lights made on or after January 1, 1971. Such lights shall be of an approved type.

(R.S. 4405, as amended, 4462, as amended, sec. 3, 70 Stat. 152, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 390b, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

SUBCHAPTER U—OCEANOGRAPHIC VESSELS

PART 188—GENERAL PROVISIONS

Subpart 188.05—Application

116. Section 188.05-30 is amended by revising the heading and paragraphs (a) and (b) to read as follows:

§ 188.05-30 Portable tanks—interpretive rulings.

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

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

(R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424, 428, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 190—CONSTRUCTION AND ARRANGEMENT

Subpart 190.25—Rails and Guards

117. Section 190.25-1 is revised to read as follows:

§ 190.25-1 Application.

(a) The provisions of this subpart with the exception of § 190.25-90, apply to all vessels contracted for on or after July 1, 1969.

(b) Vessels contracted for prior to July 1, 1969 shall meet the requirements of § 190.25-90.

118. Section 190.25-5 is revised to read as follows:

§ 190.25-5 Where rails required.

(a) All vessels shall have efficient guard rails or bulwarks on decks and bridges. The height of rails or bulwarks shall be at least 39½ inches from the deck. At exposed peripheries of the freeboard and superstructure decks, the rails shall be in at least three courses, including the top. The opening below the lowest course shall not be more than 9 inches. The courses shall not be more than 15 inches apart. In the case of ships with rounded gunwales the guard rail supports shall be placed in the flat of the deck. On other decks and bridges the rails shall be in at least two courses, including the top, approximately evenly spaced. If it can be shown to the satisfaction of the Officer in Charge, Marine Inspection, that the installation of rails of such height will be unreasonable and impracticable, having regard to the business of the vessel, rails of a lesser height or in some cases grab rails may be accepted and inboard rails may be eliminated if the deck is not generally accessible.

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

§ 190.25-90 [Amended]

119. Section 190.25-90 is amended by changing in the heading the date "March 1, 1968" to "July 1, 1969".

(R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424, sec. 6(b) (1), 80 Stat. 937; 46 U.S.C. 375, 416, 445, 49 U.S.C. 1655(b) (1); 49 CFR 1.4(a) (2))

PART 192—LIFESAVING EQUIPMENT

Subpart 192.20—Equipment for Lifeboats, Liferafts, Lifefloats, and Buoyant Apparatus

120. Section 192.20-25(o) is revised to read as follows:

§ 192.20-25 Description of equipment for liferafts.

(o) *Water light.* The water light shall be of an approved type, constructed in accordance with Subpart 160.012, 161.001, or 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 160.012 or 161.001 of this chapter shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition. The water light shall be attached to the liferaft by a 12-thread manila or equivalent synthetic lanyard 3 fathoms in length.

121. Section 192.20-35(e) is revised to read as follows:

§ 192.20-35 Description of equipment for lifeboats and buoyant apparatus.

(e) *Water light.* The water light shall be of an approved type, constructed in accordance with Subpart 160.012, 161.001 or 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 160.012 or 161.001 of this chapter shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition. The water light shall be attached to the lifeboat or buoyant apparatus by a 12-thread manila or equivalent synthetic lanyard 3 fathoms in length.

Subpart 192.43—Ring Life Buoys and Water Lights

122. Section 192.43-5(b) is revised to read as follows:

§ 192.43-5 General.

(b) All water lights shall be of an approved type, constructed in accordance with Subpart 160.012, 161.001, or 161.010 of Subchapter Q (Specifications) of this chapter. Water lights constructed in accordance with Subpart 160.012 or 161.001 of this chapter shall not be installed after December 31, 1971, but may be retained in existing installations as long as they are maintained in good condition.

(R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 445, 49 U.S.C. 1655 (b)(1); 49 CFR 1.4(a)(2))

PART 195—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

Subpart 195.35—Fireman's Outfit

123. Section 195.35-5 is amended by adding three new paragraphs, (f), (g), and (h), reading as follows:

§ 195.35-5 General.

(f) Boots and gloves shall be of rubber or other electrically nonconducting material.

(g) The helmet shall provide effective protection against impact.

(h) Protective clothing shall be of material that will protect the skin from the heat of fire and burns from scalding steam. The outer surface shall be water resistant.

124. Section 195.35-10 is revised to read as follows:

§ 195.35-10 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, a rigid helmet, boots and gloves, protective clothing, and one fire ax.

(b) Every vessel shall carry at least two firemen's outfits.

(R.S. 4405, as amended, 4462, as amended, sec. 5, 79 Stat. 424, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 445, 49 U.S.C. 1655 (b)(1); 49 CFR 1.4(a)(2))

Effective date. These amendments shall become effective 30 days following the date of publication in the FEDERAL REGISTER.

Dated: October 23, 1969.

P. E. TRIMBLE,
Vice Admiral, U.S. Coast Guard,
Acting Commandant.

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