

# ***PROCEEDINGS***

**OF THE MARINE SAFETY COUNCIL**



DEPARTMENT OF TRANSPORTATION

UNITED STATES COAST GUARD

# PROCEEDINGS

## OF THE MARINE SAFETY COUNCIL

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### COVERS

Two very different types of cargo handling are the subject of regulations currently being developed, one focusing on qualifications of personnel, and the other on equipment specifications.

In recent years, the proliferation of dangerous cargoes carried in bulk aboard vessels, and an increasing concern for the safety of the environment, among other factors, have militated for more stringent requirements for persons in charge of the carriage and transfer of these commodities. A set of proposed regulations, based upon internationally-developed recommendations, is reprinted at page 105.

Another set of international standards, the International Convention for Safe Containers, will come into force in 10 countries on September 6. The United States has not completed ratification of the Convention, but proposed implementing legislation is under consideration in the Congress. A summary of the status and basic provisions of the Convention, the draft bill, and anticipated draft regulations is presented on the opposite page.

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# The International Convention for Safe Containers

## A Status Report

by M. H. Allen

Cargo and Hazardous Materials Division  
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Meeting in Geneva in November and December 1972, a joint United Nations/International Maritime Consultative Organization Conference drafted the International Convention for Safe Containers, (CSC). The Senate gave its advice and consent to the Convention on September 15, 1976, but the United States has not yet completed the ratification action.

The Convention will come into force one year after the deposit of the tenth instrument of ratification, which occurred on September 6, 1976. So beginning on September 6, 1977, all new containers entering those 10 countries will be required to meet the standards prescribed by the Convention. The same requirement will be applied to existing containers on September 6, 1982. Any other nation ratifying the Convention will begin its enforcement one year after the deposit of its instrument of ratification. The United States will be one of these "late joiners."

The control to be exercised in the words of the Convention, "shall be limited to verifying that the con-

tainer carries a valid safety approval plate."

The containers subject to the Convention are intermodal cargo containers which are designed to be transported interchangeably by land and sea carriers. Containers designed specifically for transport by air are excluded, but those designed for intermodal use, including air, are included.

The Convention sets uniform structural requirements to insure that containers can be safely loaded and handled, and prescribes procedures by which containers are to be approved and marked with safety approval plates.

A container so marked will move more readily through international commerce, since all parties to the Convention are required to recognize the safety approval plate as presumptive proof that the container is safe. Thus, any inspection during the period of validity of the approval will be limited to ascertaining the existence of the safety approval plate. A container will be subject to further control only if it does not bear a valid safety approval plate or if "there is

significant evidence for believing that the condition of the container is such as to create an obvious risk to safety."

The intent of the UN/IMCO Conference in drawing up the CSC was to formalize structural requirements for containers to ensure safety in their handling, stacking, and transporting in the course of normal operations. It was *not* intended to restrict trade, but, rather, to facilitate trade; it was *not* intended that containers be built strong enough to resist any forces that might be imposed on them, but rather to insure that containers can be depended upon to do the job for which they are offered; it was *not* intended to impose a new, massive layer of paperwork onto the channels of trade, but it was recognized that controls are necessary.

With those ideas in mind, the Coast Guard, assisted by an ad hoc group representing all segments of the transportation industry, has pretty well completed the planning for the implementation of the Convention. A draft bill has been prepared by the Executive Branch and

has been submitted to Congress. Draft regulations have been prepared and are considered to be in fairly good shape. They will be published shortly in the Federal Register in an Advance Notice of Proposed Rulemaking. When everything falls into place, the mechanism for approving containers under the CSC will be available to U.S. container owners.

The Convention is not self-executing. Legislation is necessary if the United States is to have a domestic program for approving containers and for issuing safety approval plates. Legislation is necessary also to create the authority for regulating and policing the approval process, for removing unsafe containers, and for the other necessary associated activities.

The proposed legislation, most of which is to be executed by the Secretary of Transportation, makes the structural requirements of the Convention mandatory for American containers used in international transport, and sets forth authority for approving containers, for issuing safety approval plates, and for periodic re-examination of approved containers. It provides that a container may be detained in the absence of a safety approval plate or if there is "significant evidence for believing that the container is in such condition as to create an obvious risk to safety." It allows tailoring of detention orders to permit movement of defective containers for repairs, for preservation of perishable cargo, or for other reasons.

Looking at the bill in greater detail, we find that it is in the customary format, beginning with a preamble and definitions, and then setting forth the responsibilities, duties and authorities of the Secretary of Transportation and others.

The purpose of the proposed legislation is given in the preamble to the bill as follows: "To formalize common international safety requirements for the approval, examination, and inspection of containers within the

jurisdiction of the United States and used in international transport, to maintain a high level of safety of human life, to facilitate international container transport, and for other purposes." The legislation, when enacted, will be known as the "International Safe Container Act."

Among the several terms in the "definitions" section, the definition of "international transport" is significant. A container coming to the United States from a foreign country, or going from the United States to a foreign country, or moving between foreign countries on United States carriers, is, for the purposes of this legislation, in international transport. Thus, a container operating within the United States, as between New York and Hawaii, is not in international transport, is not subject to the Convention, and will not be affected by the proposed legislation.

The "United States" includes the District of Columbia, Puerto Rico, the Canal Zone, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas, the Trust Territory of the Pacific Islands, and any territory or possession of the United States.

A "new container" is one for which construction commenced on or after the date the Convention comes into force for the United States. An "existing container" is one which is not a "new container."

An "owner" is anyone who exercises the responsibility for the maintenance, examination and reexamination of a container.

The legislation will apply to all new and existing containers used in international transport except those specially designed for air transport.

The bill provides that the Secretary of Transportation shall prescribe regulations for approval of containers and for authorizing and attaching safety approval plates. It also provides for the revocation of approval and the invalidation of safety approval plates for cause. The Secretary shall

prescribe regulations for the periodic examination of approved containers to assure continued compliance with the safety standards of the Convention. The bill provides that the Secretary of Transportation may delegate to any person or public or private agency any function provided for by the regulations promulgated with respect to the approval of containers or of examination programs. It will be possible, under the legislation as proposed, for the Secretary of Transportation to delegate sufficient authority to enough private organizations to assure adequate service to the public under the requirements of the Convention.

The bill provides that a detention order may be issued to stop and divert from further movement any container which does not have a valid safety approval plate or which creates an obvious risk to safety. The Secretary may permit the movement of an unsafe container to another location under whatever restrictions he considers necessary. The officer issuing the detention order will be able to permit such actions to be taken with an unsafe container as may be necessary to protect it from pilferage, weather damage, and deterioration of perishable cargo, or to make it accessible to repair or salvage facilities.

Willful violation of a detention order by one who has knowledge of or reason to know of the order and who negligently or willfully causes or permits the container to be moved in violation of the order shall be subject to a civil penalty of not more than \$5,000 for each container for each day of violation. This is the only provision in the bill for the imposition of a direct monetary penalty.

Any and all costs arising from the need for a detention action will be borne by the owner of the container. This would include the costs of moving, inspection, protection, or repair, as well as any damages, injuries or other liabilities.

*(Continued on page 118)*

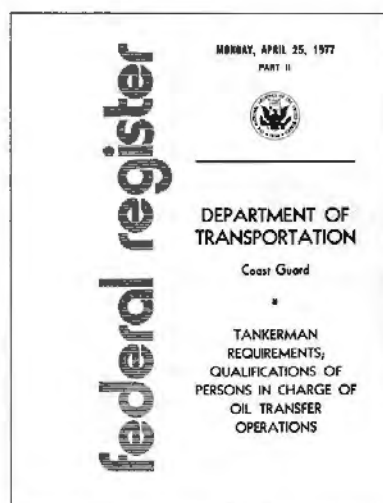
# Proposed Tankerman Requirements

*In the Federal Register of April 25, 1977, proposed regulations were published which would upgrade the qualification requirements for persons involved in the handling, transfer, and transportation of dangerous cargoes in bulk aboard ships and barges. Interested persons are invited to participate in this rulemaking by submitting written comments, citing the docket number (CGD 74-44), to Commandant (G-CMC/81), U.S. Coast Guard, Washington, DC 20590. Comments must be received on or before July 7, 1977.*

A new dimension has been added to the Coast Guard's traditional responsibility of protecting lives and property at sea. The protection of the marine environment now constitutes an integral part of its overall statutory mission. This is the culmination of worldwide concern about the continuing pollution of territorial waters as well as the open seas.

The potential for water pollution, insofar as marine transportation is concerned, stems primarily from the release of dangerous or noxious cargoes from either ships or barges. Loading and discharging accidents, along with vessel groundings, collisions, and fires have all contributed to creating a situation of national concern.

The passage of the Ports and Wa-



terways Safety Act of 1972 in the United States and the drafting of the International Marine Pollution Convention of 1973, provided the impetus and authority for the proposed regulations. Other recent regulatory proposals have been directed at vessel design, construction, repair and operational factors whose modification could result in reduction of pollution. This document addresses personnel requirements. Specifically, changes are being proposed to 46 CFR Parts 10, 12, 30, 31, 35, 70, 90, 98, 105, 151, and 157.

The proposal redefines and establishes more satisfactory qualifying criteria for certifying individuals engaged in the carriage and transfer of

the various categories of dangerous cargoes in bulk.

A study sponsored by the Maritime Administration entitled, "A Model Economic and Safety Analysis of the Transportation of Hazardous Substances in Bulk," which was completed in July 1974, concluded that the marine mode was the safest method of transporting such products. If this safety position is to be maintained and improved, and if the Coast Guard's pollution prevention efforts are to be successful, more attention must be devoted to the capabilities of those who will operate the increasingly complex equipment being designed for increasingly hazardous substances.

The importance of personnel is emphasized by data collected on those marine casualties, which indicates that human error is the contributing factor in 85% of all casualties. For example, in 1974 and 1975 over 2,200 polluting incidents, resulting in the accidental discharge of 1,813,171 gallons of oil and other hazardous substances, were attributable to human error. Examples of human error include; allowing tank overflow, improper valve handling, and improper hose connections. The lack of awareness of the hazards involved on the part of personnel engaged in transfer further compounds the problem. Better qualified personnel in charge

of such operations should lead to a reduction of similar incidents.

Recognition of the need for personnel qualification improvement is also documented in the report released August 16, 1974 by the National Transportation Safety Board (NTSB) on the fatal explosion and fire on the MV *Venus*. In this report, it was stated that the third mate, who was in charge of tank cleaning operations at the time of the explosion, had never worked on board a tankship prior to joining the vessel shortly before the casualty. He had received no training in tankship operations nor was any required. Basically, he qualified for the assignment solely on the strength of his deck officer's license. The Board recommended that the Coast Guard eliminate this defect in the regulations by requiring tankerman endorsements on such licenses before granting eligibility for this type of service.

A "tankerman" is an individual who has been trained in, and is capable of performing efficiently, the necessary operations on tank vessels which relate to the handling of cargo. It is recognized that the person in charge of cargo transfer operations on tankships must be an experienced individual who is knowledgeable in vessel stability, cargo loading, weather, tide conditions, port operations and vessel mooring, in addition to having formal shoreside and practical training in the handling of cargo. Since these qualifications are primarily requirements for a deck license, it is proposed that a licensed deck officer be required to perform this function.

Additionally, it was recommended by the NTSB that continuing eligibility (upon renewal of certificates or licenses) be contingent upon recency of service and training exercises or other demonstrations of current knowledge.

The Coast Guard's on-going reviews of existing regulations have dis-

closed the validity of the NTSB's findings. The entire existing "tankerman" regulatory scheme, although workable in the past, is not responsive to present day operations. Moreover, because of the increase in the kinds and physical properties of cargoes, and since tankerman certification is now required only for combustible or flammable products in the several grades, it is proper now to propose to extend such certification to all dangerous liquids and compressed gases. For example, an obvious deficiency exists in the case of cargoes of those products regulated by Title 46, Subchapter O, Part 151, of the Code of Federal Regulations, which an individual may now be authorized to handle simply upon the attestation of an employer that he is so qualified. No exemption, type of training or amount of experience is stipulated. Resolution of this situation is achieved by the new categories and standards in this proposal.

The basic endorsement will be "tankerman—flammable." A restricted form of the basic endorsement, "tankerman—flammable (restricted)", is provided for those persons who are not engaged in transfer operations such as a tankerman on a towing vessel which is towing a tank barge; or a tankerman on a freight vessel or a Seabee/Lash vessel which is transporting bulk liquid cargo in deep tanks or portable tanks.

Separate endorsements as "tankerman—Liquefied Gas" and "tankerman—bulk dangerous liquids" will be required for those persons engaged in the transfer of bulk dangerous chemicals and liquefied gases. Certain cargoes within these two categories will require a "special" endorsement naming the specific cargo the tankerman is authorized to transfer, when this cargo is of an extremely hazardous nature or requires special handling.

A "limited" endorsement is also authorized for a tankerman involved

in the transfer of a specific cargo in a dedicated service, where the cargo is both non-flammable and non-toxic, and would ordinarily require a bulk dangerous liquid endorsement.

No tankerman endorsement will be required for the transfer of inert gases such as nitrogen or non-flammable, non-toxic refrigerant gases, such as dichlorodifluoromethane.

The Inter-Governmental Maritime Consultative Organization (IMCO), through its Subcommittee on the Standards of Training and Watchkeeping, has developed detailed recommendations covering the proposed regulations. Recommendations concerning the training and qualification of personnel aboard dangerous cargo carriers have been circulated to all member governments. These suggestions speak to the different levels of compulsory training necessary for the officers and crew having primary responsibility for the cargo, as well as to the general training of all others aboard in the hazards involved, and in firefighting and other appropriate emergency procedures. These proposed regulations seek to put the IMCO recommendations into effect.

Although the ideas expressed above seem fairly straightforward and simple, some difficulty is envisioned in the actual mechanics of implementation. It is hoped that commentators will provide helpful suggestions in this subject area. A "phase-in" approach may be desirable in the case of those regulations concerning, for example, the carriage and transfer of certain flammable and combustible liquids and bulk dangerous liquids which are already being transported by the marine mode within the United States. However, in the case of shipment of hazardous substances such as liquefied natural gas, which is a new cargo for United States flag vessels, the proposed regulations will become effective without a "phasing in" period. This is because of the identified hazards presented by the

transport of such cargoes and the immediate need for personnel who are trained in and capable of handling these cargoes.

Where approval of mandatory training courses might present a problem, the Coast Guard is prepared to demonstrate flexibility during the development phases of satisfactory courses of instruction. As examples, where formal training in "chemical cargo" handling might not be available to all, a group within the marine industry could develop an acceptable curriculum paralleling an already approved course. For firefighting, operators could prepare their personnel in the basics with an approved classroom course, and then augment this with an approved field facility course.

In consideration of the foregoing, it is proposed to amend Chapter I of Title 46 of the Code of Federal Regulations as follows:

#### **PART 10—LICENSING OF OFFICERS AND MOTORBOAT OPERATORS AND REGISTRATION OF STAFF OFFICERS**

1. By adding a new Subpart 10.11 to read as follows:

##### **Subpart 10.11—Cargo Transfer**

Sec.	Purpose.
10.11-1	Purpose.
10.11-3	Definitions.
10.11-5	Privileges and limitations.
10.11-6	Expiration date.
10.11-7	Eligibility requirements: experience.
10.11-8	Eligibility requirements: training/examination.
10.11-9	Renewal of endorsement as tankerman.
10.11-11	Verification of experience.

**AUTHORITY:** 86 Stat. 427, as amended (46 U.S.C. 391a); sec. 6(b)(1), 80 Stat. 937 (49 U.S.C. 1655(b)(1)); 49 CFR 1.46 (n)(4).

##### **§ 10.11-1 Purpose.**

This subpart prescribes the requirements for issuing a license endorsement as tankerman, and describes the various tankerman endorsements that authorize a licensed officer to serve as a tankerman or as the person in

charge of the transfer and transport of liquid or liquefied gas cargo carried in bulk on a vessel.

##### **§ 10.11-3 Definitions.**

As used in this Subpart:

"Bulk Cargo"—means liquid or liquefied gas cargo of more than 250 barrels in a vessel's tanks which is pumped on and off the vessel, including liquid or liquefied gas cargo in a portable tank having a capacity greater than 110 U.S. gallons.

"Bulk Flammable Cargo"—means certain bulk liquids listed in § 12.20-5(a) of this Subchapter whose primary hazard is flammability or combustibility.

"Bulk Dangerous Cargo" means certain bulk dangerous liquids or liquefied gases listed in § 12.20-5(a)(2) and (3) of this Subchapter which have hazards other than, or in addition to, the conventional flammability and combustibility of petroleum products.

"Bulk Dangerous Cargo—Special" means certain bulk dangerous cargoes that are designated as special and require an endorsement on a license specifically naming the cargo or cargoes he is qualified to transfer. These special cargoes are the following:

##### **LIQUEFIED GAS**

Methane (LNG)  
Ethane  
Ethylene  
Chlorine  
Ethylene Oxide  
Methyl Acetylene-Propadiene Mixture  
Sulfur Dioxide  
Propylene Oxide

##### **BULK DANGEROUS LIQUIDS**

Allyl Chloride  
Carbon Disulphide  
Chlorosulfonic Acid  
Epichlorohydrin  
Motor Fuel Antiknock Compounds  
Oleum  
Phosphorus  
Propylene Oxide

"Bulk Dangerous Cargo—Limited"—means certain bulk dangerous liquid cargoes which are non-flam-

mable and non-toxic, and are transported in a dedicated service. These limited cargoes are the following:

Caustic Potash Solution  
Caustic Soda Solution  
Hydrochloric Acid  
Nitric Acid (70% or less)  
Phosphoric Acid  
Sodium Hypochlorite Solution (15% or less)  
Sulfur (liquid)  
Sulfuric Acid

"Liquefied Gas (LG)"—means bulk liquid cargo which has a vapor pressure of at least 1.76 kp/cm<sup>2</sup> (25 psi) at 37.8° C (103° F).

"Person in Charge" means a person who:

(a) Holds a license authorizing service as a deck officer aboard a vessel; and

(b) Is designated as person in charge by the master. A tankerman required on vessels under § 31.15-1 (b) of this Chapter may serve as the person in charge of the vessel.

"Tankerman"—means a person holding a license endorsement issued by the Coast Guard that attests to his competency in the handling and transfer on tankships and tank barges of:

(a) Flammable or combustible liquid cargo in bulk; or

(b) Dangerous liquid or liquefied gas cargo in bulk.

"Tankerman—flam. (restricted)"—means a person holding a license endorsement issued by the Coast Guard that attests to his competency and authorizes him to serve aboard cargo, passenger, and towing vessels that are required to carry a tankerman.

"Tankerman (barge)"—means a person holding a license endorsement issued by the Coast Guard that attests to his competency in the handling and transfer on tank barges of:

(a) Flammable or combustible liquid cargo in bulk; or

(b) Dangerous liquid or liquefied gas cargo in bulk.

## § 10.11-5 Privileges and limitations.

(a) The holder of a license endorsement as "tankerman" is qualified to handle and transfer on tankships and tank barges bulk liquid or liquefied gas cargoes endorsed on his license as follows: [See table at right.]

(b) A licensed officer authorized to serve as a tankerman under previous regulations remains authorized to serve in that same capacity for a period of five years from the effective date of these regulations or until the reissuance of his license, whichever occurs first, except that a person serving on a tankship or tank barge transporting liquefied natural gas cargo must have a "tankerman-LG-methane" endorsement issued under this Subpart.

(c) At any time during the five year period provided for in paragraph (b) of this section, a licensed officer may make application for and receive an endorsement authorizing service as tankerman under this section if he meets the eligibility requirements.

### § 10.11-6 Expiration date.

The expiration date to a tankerman endorsement is the same as the

#### Endorsement:

- (1) Tankerman—flammable.....
- (2) Tankerman—bulk dangerous liquids.
- (3) Tankerman—liquefied gas....
- (4) Tankerman—liquefied gas (plus specifically named cargo).
- (5) Tankerman—bulk dangerous liquids (plus specifically named cargo).
- (6) Tankerman (limited to specifically named cargo).
- (7) No tankerman endorsement required.

#### Cargoes authorized to handle and transfer:

Those cargoes listed in 12.20-5(a)(1).  
Those cargoes listed in 12.20-5(a)(2) and 12.20-5(a)(1).  
Those cargoes listed in 12.20-5(a)(3).  
Specifically named "Special" Bulk Dangerous Cargo listed in 10.11-3; and those liquefied gas cargoes listed in 12.20-5(a)(3).  
Specifically named "Special" Bulk Dangerous Cargo listed in 10.11-3 and those bulk dangerous liquid cargoes listed in 12.20-5(a)(2), and those flammable and combustible Liquid Cargoes listed in 12.20-5(a)(1).  
Specifically named Bulk Dangerous Liquid Cargo listed in 10.11-3.  
Nitrogen, carbon dioxide, dichlorodifluoromethane, dichloromonofluoromethane, dichlorotetrafluoroethane, monochlorodifluoromethane, monochlorotetrafluoroethane, monochlorotrifluoromethane.

expiration date of the license on which it is placed.

### § 10.11-7 Eligibility requirements; experience.

To be eligible for an original endorsement as tankerman, a licensed officer must meet the requirements in § 12.20-11 of this Subchapter within three years.

### § 10.11-8 Eligibility requirements: training/examination.

To be eligible for an original endorsement as tankerman, a licensed

officer must comply with the requirements of § 12.20-13 of this Subchapter.

### § 10.11-9 Renewal of endorsement as tankerman.

(a) A "tankerman" endorsement is not renewed unless an applicant for renewal passes all of the qualifications necessary for the endorsement.

(b) Each applicant for renewal must comply with § 10.02-9(a) through (d).

(c) An applicant for renewal of a tankerman endorsement must meet the requirements in § 12.20-15(f) through (i) of this Subchapter.

(d) An applicant who does not qualify for renewal of his tankerman endorsement at the time of renewal of his license may, if he requests in writing on his application, renew his license without renewing the endorsement.

### § 10.11-11 Verification of experience.

(a) Service and experience must be verified by—

- (1) Certificates of discharge; and
- (2) A letter attesting to the applicant's overall service and qualifications, including—

(i) The grades of products transferred by the vessel on which the applicant served; and

TABLE 10.11-5.—Training/Service Requirements for Endorsements

Tankerman endorsement <sup>1</sup>	Documented service	Fire-fighting course	Coast Guard examination	Training course required		
				Liquefied gas	Bulk dangerous liquid	Special
Flammable.....	×	×	×	.....	.....	.....
Flammable (restricted).....	×	×	×	.....	.....	.....
Liquefied gas.....	×	×	.....	×	.....	.....
Bulk dangerous liquid.....	×	×	.....	.....	×	.....
Liquefied gas (plus specifically named cargo).....	×	×	.....	.....	.....	×
Bulk dangerous liquid (plus specifically named cargo).....	×	×	.....	.....	.....	×
Bulk dangerous liquid (limited to specifically named cargo).....	×	×	.....	.....	×	.....

<sup>1</sup> Each tankerman endorsement will be further restricted by the addition of the word (barge) if an individual's qualifications were obtained for (in) barges.

<sup>2</sup> An approved training course may be substituted for the Coast Guard examination.

(ii) A statement as to the grades of products for which the applicant is considered qualified to be the person in charge.

(b) The letter required in paragraph (a) (2) of this section must be signed by the deck officer directly responsible for training and supervising the applicant.

(c) If the certificate of discharge required in paragraph (a) (1) of this section is not issued, a letter from the master or other representative of management is required in addition to the letter from the deck officer.

2. By adding a new § 10.30-10 to read as follows:

**§ 10.30-10 Firefighting qualifying courses.**

(a) A student who takes an approved course of training and successfully completes the course, including the written or practical examination required under § 10.30-3(c), is entitled to a firefighting certificate—

(1) In a form prescribed by the school that is acceptable to the Coast Guard; and

(2) Signed by the head of the school and the local Officer in Charge, Marine Inspection or a designated representative of either or both.

(b) The following firefighting certificates are issued under this section;

(1) "Firefighting (ship)"—no limitation as to vessels.

(2) "Firefighting (barge)"—limited to barges.

(c) A student is issued a "Firefighting (ship)" certificate if he completes the following curriculum:

(1) A total of at least 24 classroom hours covering:

(i) The fire hazards of all dangerous cargoes.

(ii) Fire prevention.

(iii) Fire chemistry.

(iv) Fire extinguishing agents and equipment.

(v) Firefighting procedures.

(vi) Emergency equipment.

(vii) Fire detecting systems.

(viii) First aid.

(2) A field exercise program of at least eight hours individual "hands on" training in firefighting procedures including class A, B, C, and D fires and extinguishing agents on vessels and covering:

(i) The following concerning fire mains:

(A) Nozzle and hose handling.

(B) Types of fire mains.

(C) Inspection of fire mains.

(D) Team work.

(E) Low and high velocity fog.

(F) Use of the fire main on the following fires:

(1) Machinery space bilge fire.

(2) In-process tank fire.

(3) Cabin fire.

(4) Drip pan fire.

(5) Manifold flange fire.

(6) Tank hatch (ullage cover) fire.

(ii) Pickup and use of foam on an in-process tank fire and an oil spill fire.

(iii) The following concerning portable extinguishers:

(A) Limitations.

(B) Inspection.

(C) Recharging.

(D) Use of extinguishers on the following fires:

(1) Galley fire.

(2) Cabin fire.

(3) Electrical fire.

(4) Flammable liquid fire.

(5) Drip pan fire.

(iv) The limitations and use of fresh air, self-contained (air-pac) and oxygen breathing apparatus in a smoke house and during rescue operations.

(d) A student is issued a "firefighting (barge)" certificate if he completes the following curriculum:

(1) A total of at least ten classroom hours covering:

(i) The fire hazards of all dangerous cargoes.

(ii) Fire prevention.

(iii) Fire chemistry.

(iv) Fire extinguishing agents and equipment.

(v) Firefighting procedures.

(vi) Emergency equipment.

(vii) First aid.

(2) A field exercise program of at least four hours individual "hands on training" in firefighting procedures including class A, B, and C fires and extinguishing agents on tank barges covering:

(i) The following concerning portable and semi-portable extinguishers:

(A) Limitations.

(B) Inspection.

(C) Recharging.

(D) Use of extinguishers on the following fires:

(1) Flammable liquid fire.

(2) Electrical fire.

(3) Cabin fire.

(4) Galley fire.

(5) Drip pan fire.

(ii) The following concerning nozzle and hose handling:

(A) Types.

(B) Inspection.

(C) Team work.

(D) Low and high velocity fog.

(E) Use of a nozzle and hose on the following fires:

(1) In-process tank fire.

(2) Manifold flange fire.

(3) Drip pan fire.

(4) Tank hatch (ullage cover) fire.

(iii) The pickup and use of foam on oil spill fires.

(e) A school which provides classroom instruction only is granted approval to issue letters of completion for the classroom portion of the required firefighting training.

(f) An individual who completes a classroom course only must—

(1) Present the letter of completion of the classroom course to an approved field exercise training facility; and

(2) Successfully complete the necessary field training at the field training facility within—

(i) Six months of completing the classroom instruction; or

(ii) Within the time specified by the field training facility.

(g) A school which provides field training only is granted approval to

issue firefighting certificates when the student has successfully completed the required field training.

(h) Each instructor of an approved firefighter training course must possess qualifications acceptable to the Coast Guard.

(i) The following training schools have approved firefighting courses:

CLASSROOM INSTRUCTIONS ONLY	*	*	*	*	*
FIELD EXERCISE TRAINING ONLY	*	*	*	*	*
CLASSROOM INSTRUCTION AND FIELD EXERCISE TRAINING	*	*	*	*	*

3. By adding a new § 10.30-15 to read as follows:

**§ 10.30-15 Qualifying courses for specific tankerman endorsements.**

(a) A student who takes an approved course of training and successfully completes the course, including the written or practical examination required under § 10.30-3(c) of this Part, is entitled to an appropriate certificate for a specific tankerman endorsement—

(1) In a form prescribed by the school that is acceptable to the Coast Guard; and

(2) Signed by the head of the school and the local Officer in Charge, Marine Inspection or a designated representative of either or both.

(b) The following certificates for specific tankerman endorsements are issued under this section:

(1) "Tankerman—Flam."—qualifying course for flammable and combustible liquid cargoes.

(2) "Tankerman—LG"—qualifying course for liquefied gas cargoes.

(3) "Tankerman—Blk. Dang. Liquids"—qualifying course for bulk dangerous liquid cargoes having hazards other than or in addition to combustibility or flammability.

(4) "Tankerman — LG (Special)"—qualifying course for a spe-

cially named liquefied gas cargo which is designated as special and listed in §§ 10.13-3 and 12.20-3 of this Subchapter.

(5) "Tankerman—Blk. Dang. Liquids (Special)"—qualifying course for a specifically named bulk dangerous liquid cargo which is designated as special and listed in §§ 10.11-3 and 12.20-3 of this Subchapter.

(6) "Tankerman (Renewal)"—qualifying course for renewal of a "Tankerman—Flam.", "Tankerman — LG", "Tankerman — Blk. Dang. Liquids," "Tankerman—LG (Special)", or "Tankerman—Blk. Dang. Liquids (Special)" endorsement.

(c) Except as provided in paragraph (d), a student is issued a certificate listed in paragraph (b) if he completes at least 35 hours of instruction in the following subjects:

(1) Characteristics of the grade of cargo involved.

(2) General arrangement of cargo tanks.

(3) Suction and discharge pipelines and valves, cargo pumps, and cargo hose.

(4) Operation of cargo pumps.

(5) Operations connected with the loading and discharging of the cargo.

(6) Rules and regulations pertaining to the specific tankerman endorsement.

(d) A student is issued a certificate for completion of a "tankerman flam," course if he completes at least 21 hours of instruction in the subjects listed in paragraph (c).

(e) A school with an approved course for a specific tankerman endorsement may establish a refresher training course which will be accepted for renewal of the endorsement. The refresher course must include at least 6 hours of instruction in the subjects listed in paragraph (c).

(f) Each instructor of an approved tankerman course must—

(1) Hold a license or merchant mariner's document endorsed for the

specific tankerman endorsement the course is intended for; or

(2) Possess other appropriate qualifications acceptable to the Coast Guard.

(g) The following training schools have approved courses for specific tankerman endorsements:

\* \* \* \* \*

**PART 12—CERTIFICATION OF SEAMEN**

4. By revising Subpart 12.20 to read as follows:

Subpart 12.20—Tankerman	
Sec.	
12.20-1	Purpose.
12.20-3	Definitions.
12.20-5	Privileges and limitations.
12.20-7	Application and issue.
12.20-9	Eligibility requirements: general.
12.20-11	Eligibility requirements: experience.
12.20-13	Eligibility requirements: training examination.
12.20-15	Requirements for renewing a tankerman's endorsement.
12.20-17	Verification of experience.
12.20-19	Increase in scope.

**AUTHORITY:** 86 Stat. 427, as amended (46 U.S.C. 391a); sec. 6(b)(1), 80 Stat. 937 (49 U.S.C. 1653(b)(1); 49 CFR 1.46(n)(4)).

**§ 12.20-1 Purpose.**

This subpart prescribes the requirements for issuing a certificate as tankerman as required by 46 U.S.C. 391 (a) and describes the endorsements that authorize the tankerman to transfer and transport various liquid or liquefied gas cargoes carried in bulk on a vessel.

**§ 12.20-3 Definitions.**

As used in this subpart:

"Bulk Cargo" means liquid or liquefied gas cargo of more than 250 barrels in a vessel's tanks which is pumped on and off the vessel, including liquid or liquefied gas cargo transported in a portable tank having a capacity greater than 110 U.S. gallons.

"Bulk Flammable Cargo" means certain bulk liquids listed in § 12.20-5(a) of this Subchapter whose pri-

mary hazard is flammability or combustibility.

"Bulk Dangerous Cargo" means certain bulk liquids or liquefied gases listed in § 12.20-5(a) (2) and (3) of this Subchapter which have hazards other than, or in addition to the conventional flammability and combustibility of petroleum products.

"Bulk Dangerous Cargo—Special" means certain bulk dangerous cargoes that are designated as special and require an endorsement on a tankerman's document specifically naming the cargo or cargoes he is qualified to transfer. These special cargoes are the following:

#### LIQUEFIED GAS

Methane (LNG)  
Ethane  
Ethylene  
Chlorine  
Ethylene Oxide  
Methyl Acetylene-Propadiene Mixture  
Sulfur Dioxide  
Propylene Oxide

#### BULK DANGEROUS LIQUIDS

Allyl Chloride  
Carbon Disulphide  
Chlorosulfonic Acid  
Epichlorohydrin  
Motor Fuel Antiknock Compounds  
Oleum  
Phosphorus  
Propylene Oxide

"Bulk Dangerous Cargo—Limited"—means certain bulk dangerous liquid cargoes which are non-flammable and non-toxic, and are transported in a dedicated service. These limited cargoes are the following:

Caustic Potash Solution  
Caustic Soda Solution  
Hydrochloric Acid  
Nitric Acid (70 pct or less)  
Phosphoric Acid  
Sodium Hypochlorite Solution (15 pct or less)  
Sulfur (liquid)  
Sulfuric Acid.

"Liquefied Gas (LG)"—means a bulk cargo which has a vapor pressure of at least 1.76 kp/cm<sup>2</sup> (25 psi) at 37.8° C (103° F).

"Person in Charge" means a person who—

(a) Is certified as a tankerman;

(b) Has been designated as responsible for the transfer of bulk cargo to or from a tank barge; and

(c) Has the authority to sign the declaration of inspection required by § 35.35-30 of this Chapter, and 33 CFR 156.150.

"Tankerman"—means a person holding a certificate issued by the Coast Guard that attests to his competency in the handling and transfer on tankships and tank barges of—

(a) Flammable or combustible liquid in bulk; or

(b) Dangerous liquid or liquefied gas cargo in bulk.

"Tankerman—flam. (restricted)"—means a person holding a certificate issued by the Coast Guard that attests to his competency and authorizes him to serve aboard cargo, passenger, and towing vessels that are required to carry a tankerman.

"Tankerman (barge)"—means a person holding certificate issued by the Coast Guard that attests to his competency in the handling and transfer on tank barges of—

(a) Flammable or combustible liquid cargo in bulk; or

(b) Dangerous liquid or liquefied gas cargo in bulk.

#### § 12.20-5 Privileges and limitations.

(a) The holder of a certificate as "tankerman" or "tankerman (barge)" is qualified to be in charge of the transfer on tank barges of bulk liquid or liquefied gas cargoes endorsed on his document as follows:

#### *Cargoes authorized to handle and transfer*

##### *Endorsement:*

(1) Tankerman—Flam:

Acetone  
Amyl acetate (iso-, n-)  
Amyl alcohol (n-)  
Amyl tallow  
Asphalt  
Asphalt blending stocks:  
Roofers flux  
Straight run residue  
Butyl acetate (iso-, n-, sec-)  
Butyl alcohol (iso-, n-, sec-, tert-)

Butyl benzyl phthalate  
1,3-butylene glycol  
Cumene  
Cycloaliphatic resins  
Cyclohexane  
Cyclohexanol  
Cymene (para-)  
Decyl alcohol (iso, n-)  
Decyl benzene (n-)  
Decyl benzene (n-)  
Decaldehyde (iso-, n-)  
Decene  
Diacetone alcohol  
Dibutyl phthalate (ortho-)  
Diethylbenzene  
Diethylene glycol  
Diethylene glycol monobutyl ether (methyl carbitol)  
Diethylene glycol monobutyl ether acetate  
Diethylene glycol monoethyl ether  
Diethylene glycol monomethyl ether  
Diglycidial ether of bisphenyl-A  
Diheptyl phthalate  
Diisobutylene  
Diisobutyl carbinol  
Diisobutyl ketone  
Diisodecyl phthalate  
Dinonyl phthalate  
Dioctyl phthalate  
Diphenyl-diphenyl oxide  
Dipropylene glycol  
Distillates:  
Straight run  
Flashed feed stocks  
Diundecyl phthalate  
Dodecanol  
Dodecylbenzene (commercial)  
Epoxylated linear alcohols, C11-C15  
Ethoxylated alcohols, C12-C15  
Ethoxy triglycol (crude)  
Ethyl acetate  
Ethyl alcohol  
Ethyl benzene  
Ethyl butanol  
Ethylene glycol  
Ethylene glycol monobutyl ether  
Ethylene glycol monobutyl ether acetate  
Ethylene glycol monoethyl ether  
Ethylene glycol monoethyl ether acetate  
Ethylhexaldehyde  
2-Ethyl hexanol  
Ethyl hexyl tallow  
Farfuryl alcohol  
Gas oil: cracked  
Gasoline blending stocks:  
Alkylates  
Reformates  
Gasolines:  
Casinghead (natural)  
Automotive (containing not over 4.23 grams lead per gallon)  
Aviation (containing not over 4.86 grams lead per gallon)

Gasolines—Continued

Polymer  
Straight run  
Glycerine  
Glycol diacetate  
Glyoxal (40%)  
Heptane  
Heptanol  
Hexane (iso-, n-)  
Hexanol  
Hexene  
Hexylene glycol  
Isphorone  
Jet fuels:  
JP-1 (kerosene)  
JP-3  
JP-4  
JP-5 (kerosene, heavy)  
Kerosene  
Latex, liquid synthetic  
Methyl acetate  
Methyl alcohol  
Methyl amyl acetate  
Methyl amyl alcohol  
Methyl ethyl ketone  
Methyl formal (dimethyl formal)  
Methyl isobutyl ketone  
Methyl isobutyl carbinol  
Mineral spirits  
Naphtha:  
Solvent  
Stoddard solvent  
Varnish makers' and painters' (75  
pct.)  
Nonane  
Nonene  
Nonyl alcohol  
Nonyl phenol  
Nonyl phenol (ethoxylated)  
Octene  
Octyl alcohol (iso-, n-)  
Octyl aldehyde (iso-)  
Octyl epoxytallate  
Oils:  
Absorption  
Aromatic  
Clarified  
Coal oil  
Coal tar  
Croton  
Crude oil  
Diesel oil  
Fuel oils:  
No. 1 (Kerosene)  
No. 1-D  
No. 2  
No. 2-D  
No. 4  
No. 5  
No. 6  
Heartcut distillate  
Lubricating  
Mineral seal  
Mineral  
Motor  
Neatsfoot

Linseed  
Penetrating  
Range  
Residual  
Resin  
Resinous petroleum  
Road  
Rosin  
Sperm  
Spindle  
Spray  
Tall  
Tanner's  
Transformer  
Turbine  
Edible oils, including:  
Castor  
Coconut  
Cotton seed  
Fish  
Lard  
Olive  
Palm  
Peanut  
Safflower  
Soya bean  
Tucum  
Vegetable  
Pentadecanol  
Pentane (iso-, n-)  
1-Petene  
Petrolatum  
Petroleum naphtha  
Phosphorized bicyclic terpene  
Phthalate plasticizers  
Polybutene  
Polyethylene glycols  
Polymerized esters  
Polypropylene  
Polypropylene glycol methyl ether  
Polypropylene glycols  
Propyl acetate (iso-, n-)  
Propyl alcohol (iso-, n-)  
Propylene butylene polymer  
Propyl ether (iso-)  
Propylene glycol  
Propylene tetramer  
Sorbitol  
Soybean oil (epoxidized)  
Sulfolane  
Tallow  
Tetradecanol  
Tetradecene  
Tetradecyl benzene  
Tetraethylene glycol  
Tetrahydronaphthalene  
Toluene  
Tridecanol  
Tridecene  
Tridecyl benzene  
Triethyl benzene  
Triethylene glycol  
Triethylene glycol diethyl butyrate  
Tripropylene glycol

Turpentine  
Undecanol  
Undecene  
Undecylbenzene  
Waxes:  
Carnauba  
Paraffin  
Xylene (eta-, para-, ortho-)  
Zinc Dialkyldithiophosphate  
(2) Tankerman—Blk. dang. liquids:  
Acetic acid  
Acetic anhydride  
Acetone cyanohydrin  
Acetonitrile  
Acrylic acid  
Acrylonitrile  
Adiponitrile  
Allyl alcohol  
Allyl chloride  
Aminoethylethanolamine  
Ammonium hydroxide (28 pct or  
less NH3)  
Aniline  
Benzene  
Benzyl chloride  
(Iso-, n-) butyl acrylate  
(Iso-, n-, sec-, tert-) butylamine  
(N-) butyl ether  
Butyl methacrylate  
(Iso-, n-, crude) butyraldehyde  
Camphor oil  
Carbolic oil  
Carbon tetrachloride  
Caustic potash solution  
Caustic soda solution  
(Mono-) chlorobenzene  
Chloroform  
(Crude) chlorohydrins  
Chloroprene  
Coal tar naphtha  
Creosote  
Cresols  
Crotonaldehyde  
Cyclohexanone  
Cyclohexylamine  
(Iso-, n-) decyl acrylate  
Dibutylamine  
Dichlorobenzene  
1,1-Dichloroethane  
2,2'-Dichloroethyl ether  
Dichloromethane  
1,1- or 1,2-dichloropropane  
1,3-dichloropropene  
Diethanolamine  
Diethylamine  
Diethylenetriamine  
Dilethylethanolamine  
Diisopropanolamine  
Diisopropylamine  
Dimethylethanolamine  
Dimethylformamide  
1,4-dioxane  
Ethanolamine  
Ethyl acrylate

Ethylene chlorohydrin  
 Ethylene cyanohydrine  
 Ethylenediamine  
 Ethylene dibromide  
 Ethylene dichloride  
 Ethyl ether  
 2-ethylhexyl acrylate  
 Ethyl methacrylate  
 2-ethyl-3-propyl acrolein  
 Formaldehyde solution (37 to 50  
 pct)  
 Formic acid  
 Furfural  
 Hydrochloric acid  
 2-hydroxyethyl acrylate  
 Isoprene  
 Mesityl oxide  
 Methyl acrylate  
 2-methyl-5-ethyl pyridine  
 Methyl methacrylate  
 (Alpha-) methyl styrene  
 Morpholine  
 Naphthalene (liquid)  
 Nitric acid (70 pct or less)  
 (Mono-) nitrobenzene  
 1- or 2-nitropropane  
 (Ortho-, para-) nitrotoluene  
 Paraldehyde  
 Pentachloroethane  
 Phenol  
 Phosphoric acid  
 Phthalic anhydride (liquid)  
 (Iso-, n-) propanolamine  
 Propionic acid  
 Propionia anhydride  
 (Iso-, n-) propylamine  
 Pyridine  
 Sodium hydrosulfide solution (45  
 pct or less)  
 Sodium hypochlorite solution (15  
 pct or less)  
 Styrene  
 Sulfur (liquid)  
 Sulfuric acid  
 1,1,2,2-tetrachloroethane  
 Tetraethylenepentamine  
 Tetrahydrofuran  
 Toluene diisocyanate  
 Tricresyl phosphate (containing 1  
 pct or more of the ortho isomer)  
 Triethanolamine  
 Triethylamine  
 Triethylenetetramine  
 Urea, ammonium nitrate solution  
 (containing more than 2 pct  
 NH<sub>3</sub>)  
 (Iso-, n-) valeraldehyde  
 Vinyl acetate  
 Vinylidene chloride  
 Vinyl ethyl ether  
 Vinyl toluene; and  
 Table 151.05 of 46 CFR Part 151,  
 except:  
 Acetaldehyde

- Ammonia  
 Butadiene  
 Carbon disulphide  
 Chlorine  
 Chlorosulfonic acid  
 Dimethylamine  
 Epichlorohydrin  
 Ethyl chloride  
 Methyl bromide  
 Motor fuel antiknock compounds  
 Oleum  
 Phosphorus  
 Propylene oxide  
 Sulfur dioxide; and those flammable  
 or combustible liquid cargoes  
 listed in 12.20-5(a)(1).
- (3) Tankerman—LG:  
 Acetaldehyde  
 Ammonia  
 Butadiene  
 Butane  
 Butylene  
 Dimethylamine  
 Ethylamine  
 Ethyl chloride  
 Methyl bromide  
 Methyl chloride  
 Propane  
 Propylene  
 Vinyl chloride
- (4) Tankerman—LG (plus specifically  
 named cargo):  
 Specifically named "special" bulk  
 dangerous cargo listed in 12.20-  
 3; and those liquefied gas  
 cargoes listed in 12.20-5(a)(3)
- (5) Tankerman—bulk dangerous liquids  
 (plus specifically named  
 cargo):  
 Specifically named "special" bulk

- dangerous cargo listed in 12.20-  
 3; and those bulk dangerous  
 liquid cargoes listed in 12.20-5  
 (a)(2), and those flammable or  
 combustible liquid cargoes listed  
 in 12.20-5(a)(1)
- (6) Tankerman (limited to specifically  
 named cargo):  
 Specifically named bulk dangerous  
 liquid cargo listed in 12.20-3
- (7) No tankerman endorsement re-  
 quired:  
 Nitrogen  
 Carbon dioxide  
 Dichlorodifluoromethane  
 Dichloromonofluoromethane  
 Dichlorotetrafluoroethane  
 Monochlorodifluoromethane  
 Monochlorotetrafluoroethane  
 Monochlorotrifluoromethane

(b) A person authorized to serve  
 as tankerman or to transfer products  
 under previous regulations shall re-  
 main authorized to serve in that  
 same capacity for a period of five  
 years from the effective date of these  
 regulations or until the reissuance of  
 his merchant mariner's document,  
 whichever occurs first, except that a  
 person serving on a tankship or tank  
 barge transporting liquefied natural  
 gas cargo must have a "tankerman-  
 LG-methane" endorsement issued  
 under this Subpart.

(c) A person authorized to serve  
 as a tankerman under previous reg-

QUALIFICATION TABLE 12.20-5(b).—*Training/Service Requirements for  
 Endorsements*

Tankerman endorsement <sup>1</sup>	Docu- mented service	Fire- fighting course	Coast Guard ex- amination	Training course required		
				Liquefied gas	Bulk dangerous liquid	Special
Flammable.....	X	X	X <sup>2</sup>			
Flammable (restricted).....		X	X <sup>2</sup>			
Liquefied gas.....	X	X		X		
Bulk dangerous liquid.....	X	X			X	
Liquefied gas (plus specifically named cargo).....	X	X				X
Bulk dangerous liquid (plus specifically named cargo).....	X	X				X
Bulk dangerous liquid (limited to specifically named cargo)....	X	X			X	

<sup>1</sup> Each tankerman endorsement will be further restricted by the addition of the word (barge) if an individ-  
 ual's qualifications were obtained for (in) barges.

<sup>2</sup> An approved training course may be substituted for the Coast Guard examination.

ulations may, at any time during the five year period provided for in paragraph (b), make application for and be issued a certificate as tankerman endorsed under this subpart if he:

(1) Presents a certificate of completion of an approved firefighting training course from a school which is listed in § 10.30-10 of this Subchapter, that is dated within 24 months before the month of application for endorsement;<sup>1</sup> and

(2) Meets the requirements for renewal of certificates contained in § 12.20-15(e) of this Subpart for recent service.

#### § 12.20-7 Application and issue.

(a) Applicants who meet the requirements in this subchapter are issued a certificate endorsed for the products they are qualified to transfer.

(b) The certificate is valid for five years.

#### § 12.20-9 Eligibility requirements: general.

To be eligible for an original certificate as tankerman issued under this Subpart, a person must:

- (a) Be at least 18 years of age;
- (b) Be able to speak, read, and understand the English language; and
- (c) Pass the medical examination for an engineer officer in § 10.02-5 (e) of this Subchapter, except that an applicant for a "tankerman (barge)" endorsement must have uncorrected vision of at least 20/200 in each eye correctable to at least 20/30 in one eye and 20/50 in the other eye.

#### § 12.20-11 Eligibility requirements: experience.

(a) In determining the service requirements of this section, credit for one transfer operation is given for one complete work shift during the transfer operation, or a partial work shift

<sup>1</sup> During a one-year period from the effective date of these regulations, completion of a recognized marine firefighting training course since January 1, 1974, will be accepted as meeting the requirement of this paragraph.

if the shift includes either the hooking up and commencement of transfer or the shutting down of transfer operations and disconnecting. Credit is not given for more than one transfer during a single operation even if work is performed in excess of one normal shift.

(b) Each applicant for a "tankerman—flammable liquids" endorsement must have service as an assistant to a certificated tankerman including:

(1) At least 10 transfers of flammable or combustible liquid cargoes during the 12 months prior to application for certification; or

(2) At least five transfers of combustible or flammable products if the applicant has a valid tankerman's certificate for liquefied gas.

(c) An applicant for a "tankerman—flam. (restricted)" endorsement is not required to meet the experience requirement in paragraph (b).

(d) Each applicant for a "tankerman—LG" endorsement must have service as an assistant to a LG tankerman including:

(1) At least 10 transfers of LG cargoes during the 12 months prior to application for certification; or

(2) At least five transfers of LG cargoes if the applicant has a valid tankerman's certificate for any other grade of product.

(e) Each applicant for a "tankerman—bulk dangerous liquids" endorsement must have service as an assistant to a bulk dangerous liquids tankerman including:

(1) At least 10 transfers of bulk dangerous liquid cargoes during the 12 months prior to the application for certification; or

(2) At least five transfers of bulk dangerous liquid cargoes if the applicant has a valid certificate as tankerman for any other grade of product.

(f) Each applicant for a "tankerman (special)" endorsement must have service as an assistant to a person with a "tankerman (special)" endorsement including:

(1) At least 10 transfers of the specifically named special cargo during the 12 months prior to the application for certification; or

(2) At least five transfers of the specifically named special cargo if the applicant has a valid certificate as tankerman.

(g) If a new chemical product is developed and added to the list in § 12.20-3(c) of this Subpart, the service requirements of paragraph (e) (1) need not be met during the first 12 months after publication of the product in the list if the applicant:

(1) Meets the training requirements of § 12.20-13(f) of this Subpart; and

(2) Submits documentary evidence that he is trained in, and competent to safely handle the new product.

(h) Required service must be documented and substantiated to the satisfaction of the Officer in Charge, Marine Inspection.

#### § 12.20-13 Eligibility requirements: training/examination.

(a) To be eligible for an original endorsement as "tankerman" each applicant must present a certificate of completion from an approved firefighting training course, which is listed in § 10.30-10 (d)(1) or (d)(2) of this Subchapter, for tankerman or tankerman (barge) that is dated within 24 months before the month of application for endorsement.<sup>1</sup>

(b) Each applicant for a "tankerman flammable" or "tankerman—flam. (restricted)" endorsement must:

(1) Pass a written examination administered by the Coast Guard covering:

- (i) Cargo tanks and tank venting;
- (ii) Cargo pipelines and valves; (iii) Cargo pumps and hose/loading arms;
- (iv) Loading and discharging procedures; and (v) Pollution prevention and control; or

(2) Satisfactorily complete an approved training course for flammable

cargoes, listed in § 10.30-15 of this Subchapter, within 24 months before the month of application for endorsement.

(c) An applicant for a "tankerman—flam. (barge)" endorsement may be examined orally and is not required to take the written examination required in paragraph (a).

(d) Each applicant for a "tankerman—LG" endorsement must satisfactorily complete an approved training course for LG, listed in § 10.30-15 of this Subchapter, within 24 months before the month of application for endorsement.

(e) Each applicant for a "tankerman—bulk dangerous liquids" endorsement must satisfactorily complete an approved training course for bulk dangerous liquids, listed in § 10.30-15 of this Subchapter, within 24 months before the month of application for endorsement.

(f) Each applicant for a "tankerman (special)" endorsement must satisfactorily complete an approved training course for the specifically named special cargo, listed in § 10.30-15 of this Subchapter, within 24 months before the month of application for endorsement.

#### § 12.20-15 Requirements for renewing a tankerman's endorsement.

(a) An endorsement is not renewed unless an applicant for renewal possesses all of the qualifications necessary for the endorsement.

(b) An applicant must make written application for renewal of an endorsement on Coast Guard Form CG-719B, Seaman's Certificate Application.

(c) An applicant must appear, in person, before an Officer in Charge, Marine Inspection.

(d) A tankerman's endorsement will be renewed within 12 months after the date of expiration of the endorsement, except if the endorsement expired beyond the 12 month period during which time the applicant was serving in the Armed Forces or the

Merchant Marine and there was no reasonable opportunity for renewal. The period of service in the Armed Forces or the Merchant Marine following the date of expiration is added to the 12 month period.

(e) No endorsement will be renewed more than 90 days before its expiration date, unless there are extraordinary circumstances that justify an early renewal. The reasons for the early renewal must appear, in detail, in the records of the Officer in Charge, Marine Inspection renewing the document.

(f) An applicant for renewal of a "tankerman — flam." endorsement must:

(1) Have served under the authority of the endorsement within the three years immediately preceding the date of the application for renewal; and

(2) Complete an approved firefighting course within 24 months before the month of application for renewal.

(g) An applicant for renewal of a "tankerman—flam. (restricted)" endorsement must complete an approved firefighting course within 24 months before the month of application for renewal.

(h) An applicant for renewal of a "tankerman" endorsement other than "tankerman flam." must:

(1) Meet the requirements for renewal of the "tankerman flam." endorsement; and

(2) Complete an approved training course or refresher course listed in § 10.30-15 of this Subchapter for the specific endorsement to be renewed, within 24 months before the month of application for renewal.

(i) An applicant for renewal of a "tankerman" endorsement other than "tankerman — flam. (restricted)" who has not served under the authority of the endorsement within the three years immediately preceding the date of application for renewal must meet the requirements for an original endorsement as "tankerman".

#### § 12.20-17 Verification of experience.

(a) Service acquired on tank barges or shore facilities must be documented by a representative of management and the qualified person directly training and supervising the applicant.

(b) Service acquired on a vessel must be documented by—

(1) Certificates of discharge; and

(2) A letter from the qualified person directly training and supervising the applicant.

(c) If a certificate of discharge required in paragraph (b) is not issued, a letter from the master or other representative of management is required in addition to the letter from the person supervising the applicant.

(d) The letters of service required in paragraphs (b) and (c) must verify the applicant's overall service and qualifications, including the grades of products transferred.

#### § 12.20-19 Increase in scope.

An applicant who has previously qualified for a specific tankerman endorsement may obtain additional endorsements by completing the service or training requirements under § 12.20-11(c) of this Subpart for the endorsement desired.

### PART 30—GENERAL PROVISIONS

5. By revising § 30.10-71 to read as follows:

#### § 30.10-71 Tankerman—TB/ALL.

(a) The term "tankerman" means any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency in the handling and transfer on tankships and tank barges of:

(1) Flammable or combustible liquid cargo in bulk; or

(2) Dangerous liquid or liquefied gas cargo in bulk.

(b) The term "tankerman—flam. (restricted)" means any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency and author-

izes him to serve aboard cargo, passenger, and towing vessels that are required to carry a tankerman.

## PART 31—INSPECTION AND CERTIFICATION

6. By amending § 31.15-1 as follows:

### § 31.15-1 Licensed officers and crew—TB/ALL.

\* \* \* \* \*

(c) The person in charge of a cargo transfer operation for a tankship shall:

(1) Be designated as person in charge by the master;

(2) Hold a license authorizing service as a deck officer aboard the tankship;

(3) Hold the appropriate endorsement under Subpart 10.11 of this Chapter for the grade of product being transferred, except that if a tankerman is required on the Certificate of Inspection under paragraph (b) of this Section, the tankerman may serve as the person in charge; and

(4) Have served during the preceding 12 months aboard the tankship or another tankship built to the same basic plans and having the same cargo containment, control, and monitoring systems.

(d) The service required in paragraph (c) must include:

(1) Assisting the person in charge of the cargo transfer operation during at least two transfers of cargo; or

(2) Equivalent experience acceptable to the Officer in Charge, Marine Inspection.

(c) The person in charge of a cargo transfer operation is responsible for the safe loading, transport, and discharge of the cargo.

(f) On a vessel with a Certificate of Inspection that requires only one licensed officer other than the master, the master may be the person in charge of the cargo transfer operation if his license is endorsed as tankerman for the grade of cargo being transferred.

7. By revising § 31.15-5 as follows:

### § 31.15-5 Tank barges—B/ALL.

(a) A tank barge under this subchapter is not required to be manned unless the Officer in Charge, Marine Inspection, determines that manning is necessary for the protection of life and property, and the safe operation of the vessel.

(a-1) A towing vessel towing a barge which is not required to be manned must have on board, while towing, at least one certificated tankerman of any endorsement, including the "tankerman—flam. (restricted)" endorsement.

(a-2) If cargo transfer (other than in an emergency) or tank cleaning is carried out, it must be supervised by certificated tankerman endorsed for the cargo involved.

\* \* \* \* \*

### § 31.15-6 [Deleted]

8. By deleting § 31.15-6.

## PART 35—OPERATIONS

9. By amending § 35.35-1 to read as follows:

### § 35.35-1 Men on duty—TB/ALL.

(a) The owner, master, or person in charge shall ensure that a sufficient number of crew, with license endorsements or certificates as tankerman for the grade of cargo being transferred, are on duty to perform cargo transfer operations.

(b) The owner, master, or person in charge of a tank barge shall ensure that a certificated tankerman is on duty to perform cargo transfer operations. The licensed or certificated tankerman is the person in charge of the tank barge.

(b-1) The owner, master, or person in charge shall ensure that the tankerman required in paragraph (b) is certificated for the cargo being transferred. A licensed officer, as described in Subpart 10.11 of this Chapter, who is authorized to serve as a tankerman, may serve as a tankerman on a tank barge.

\* \* \* \* \*

(d) The person in charge of a

cargo transfer operation for a tankship shall:

(1) Be designated as person in charge by the master;

(2) Hold a license authorizing service as a deck officer aboard the tankship;

(3) Hold the appropriate endorsement under Subpart 10.11 of this Chapter for the grade of product being transferred, except that if a tankerman is required on the Certificate of Inspection under § 31.15-1(b) of this Part, the tankerman may serve as the person in charge; and

(4) Have served during the preceding 12 months aboard the tankship or another tankship built to the same basic plans and having the same cargo containment, control, and monitoring systems.

(e) The service required in paragraph (d) must include:

(1) Assisting the person in charge of the cargo transfer operation during at least two transfers of cargo; or

(2) Equivalent experience acceptable to the Officer in Charge, Marine Inspection.

## PART 70—GENERAL PROVISIONS

10. By amending § 70.05-30 to read as follows:

### § 70.05-30 Combustible liquid cargo in bulk.

\* \* \* \* \*

(b) Each vessel to which this section applies must have on board a person holding a license authorizing service aboard the vessel, with a tankerman's endorsement, including the "tankerman—flam. (restricted)" endorsement.

(c) The person designated as the person in charge of the transfer from a passenger vessel's integral tanks must:

(1) Be qualified as a tankerman under paragraph (b); and

(2) Have authority to sign the declaration of inspection required by § 35.35-30 of this Chapter and 33 CFR Part 156.150.

(d) The person designated as the person in charge of the transfer from

a passenger vessel's portable tanks must:

(1) Be qualified as a tankerman under § 98.30-19 of this Chapter; and

(2) Have authority to sign the declaration of inspection required in § 35.35-30 of this Chapter and 33 CFR 156.150.

11. By adding a new § 70.10-49 to read as follows:

**§ 70.10-49 Tankerman.**

(a) The term "tankerman" means any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency in the handling and transfer on tankships, as defined in § 30.10-67 of this Chapter, and tank barges of:

(1) Flammable or combustible liquid cargo in bulk; or

(2) Dangerous liquid or liquefied gas cargo in bulk.

(b) The term "tankerman—flam. (restricted)" means any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency and authorizes him to serve aboard cargo, passenger, and towing vessels that are required to carry a tankerman.

**PART 90—GENERAL PROVISIONS**

12. By amending § 90.05-35 to read as follows:

**§ 90.05-35 Flammable and combustible liquid cargo in bulk.**

\* \* \* \* \*

(b) Each vessel to which this section applies must have onboard a person holding a license authorizing service aboard the vessel, with a tankerman's endorsement, including the "tankerman—flam. (restricted)" endorsement.

(c) The person designated as the person in charge of the transfer from a cargo or miscellaneous vessel's integral tanks must:

(1) Be qualified as a tankerman under paragraph (b); and

(2) Have authority to sign the declaration of inspection required by

§ 35.35-30 of this Chapter and 33 CFR 156.150.

(d) The person designated as the person in charge of the transfer from a cargo or miscellaneous vessel's portable tanks must:

(1) Be qualified as a tankerman under § 98.30-19 of this Chapter; and

(2) Have authority to sign the declaration of inspection required in § 35.35-30 of this Chapter and 33 CFR 156.150.

13. By adding a new § 90.10-40 to read as follows:

**§ 90.10-40 Tankerman.**

(a) The term "tankerman" means any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency in the handling and transfer on tankships, as defined in § 30.10-67 of this Chapter, and tank barges of:

(1) Flammable or combustible liquid cargo in bulk; or

(2) Dangerous liquid or liquefied gas cargo in bulk.

(b) The term "tankerman—flam. (restricted)" means any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency and authorizes him to serve aboard cargo, passenger, and towing vessels that are required to carry a tankerman.

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

14. By revising § 98.30-17 to read as follows:

**§ 98.30-17 Qualifications of person in charge.**

No person may serve, and the operator of a vessel may not use the services of a person, as a person in charge of the transfer of a product to or from a portable tank unless:

(a) On tank barges, the person holds a valid tankerman's certificate for the grade of cargo carried;

(b) On self-propelled tank, cargo

and miscellaneous, or passenger vessels, the person holds:

(1) A valid license authorizing service on the vessel; and

(2) A suitable endorsement for the grade of cargo being transferred; and

(c) On vessels not covered by paragraphs (a) or (b), the person meets the requirements for tank barges in paragraph (a).

**PART 105—COMMERCIAL FISHING VESSELS DISPENSING PETROLEUM PRODUCTS**

15. By revising § 105.50-5 to read as follows:

**§ 105.50-5 Tankerman.**

(a) Except as provided in paragraph (b), each commercial fishing vessel dispensing petroleum products must have on board a person holding a:

(1) License with a "tankerman—flam." endorsement; or

(2) Certificate issued by the Coast Guard attesting to his competency as a tankerman.

(b) Each commercial fishing vessel dispensing grade "D" or lower petroleum products must have on board a person holding:

(1) A license with a "tankerman—flam. (restricted)" endorsement; or

(2) A "tankerman flam. (restricted)" certificate.

(c) The requirements for a license endorsement as tankerman are in Subpart 10.11 of this Chapter.

(d) The requirements for a certificate attesting to a person's competency as a tankerman are in Subpart 12.20 of this Chapter.

**Subpart 105.60 [Deleted]**

16. By deleting Subpart 105.60.

**PART 151—UNMANNED BARGES CARRYING CERTAIN BULK DANGEROUS CARGOES**

17. By revising § 151.03-53 to read as follows:

**§ 151.03-53 Tankerman.**

(a) The term "tankerman" means

any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency in the handling and transfer on tankships, as defined in § 30.10-67 of this Chapter, and tank barges of:

(1) Flammable or combustible liquid cargo in bulk; or

(2) Dangerous liquid or liquefied gas cargo in bulk.

(b) The term "tankerman—flam. (restricted)" means any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency and authorizes him to serve aboard cargo, passenger, and towing vessels that are required to carry a tankerman.

18. By revising § 151.45-3 to read as follows:

**§ 151.45-3 Manning.**

(a) A barge is not required to be manned unless the Officer in charge, Marine Inspection determines that manning is necessary for the protection of life and property, and the safe operation of the vessel. Each vessel that requires manning for safe operation may be subject to additional requirements as determined by the Commandant.

(b) A towing vessel towing a barge which is not required to be manned must have on board, while towing, at least one certificated tankerman of any endorsement, including the "tankerman—flam. (restricted)" endorsement.

(c) If cargo transfer (other than in an emergency) or tank cleaning is carried out, it must be supervised by a certificated tankerman endorsed for the cargo involved.

19. By revising § 151.45-4 to read as follows:

**§ 151.45-4 Cargo handling.**

(a) The owner, master, or person in charge shall ensure that a sufficient number of persons are on duty to perform cargo transfer operations.

(a-1) The owner, master, or person in charge of a tank barge shall

ensure that a person holding a license endorsement or certificate as a tankerman is on duty to perform transfer operations. The licensed or certificated tankerman is the person in charge of the tank barge.

(a-2) The owner, master, or person in charge shall ensure that the tankerman required in paragraph (a-1) is certificated for the cargo being transferred.

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**PART 157—MANNING  
REQUIREMENTS**

20. By revising § 157.10-80 to read as follows:

**§ 157.10-80 Tankerman.**

(a) The term "tankerman" means any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency in the handling and transfer on tankships, as defined in § 30.10-67 of this Chapter, and tank barges of:

(1) Flammable or combustible liquid cargo in bulk; or

(2) Dangerous liquid or liquefied gas cargo in bulk.

(b) Each tankerman endorsement is restricted by the word "barge" if the individual's qualifications were obtained for barges.

(c) The term "tankerman—flam. (restricted)" means any person holding a license endorsement or a certificate issued by the Coast Guard that attests to his competency and authorizes him to serve aboard cargo, passenger, and towing vessels that are required to carry a tankerman.

(86 Stat. 427, as amended (46 U.S.C. 391a); sec. 6(b)(1), 80 Stat. 937 (49 U.S.C. 1655(b)(1); 49 CFR 1.46(n) (4)).)

NOTE.—The Coast Guard has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended, and OMB Circular A-107.

Dated: April 19, 1977.

O. W. SILER,  
*Admiral, U.S. Coast Guard  
Commandant.*

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## Container Convention

*(Continued from page 104)*

Any employee who might report the existence of an unsafe container would be protected from discharge or discrimination. The Secretary of Labor will enforce that section.

The bill provides that the Secretary of State, with the concurrence of the Secretary of Transportation, may propose amendments to the Convention or to its annexes in accordance with the procedures provided in the Convention. There is also a provision

that the Secretary of Defense, in consultation with the Secretary of Transportation, may modify the application of the Act with respect to cargoes of military significance, moving in response to an emergency situation, in transportation assets owned or controlled by, or under contract to the United States Government.

The preceding discussion offers an overview of the bill as proposed to Congress. However, anyone who is concerned with intermodal containers should read the bill itself along with the Convention and the soon-to-be-published draft regulations. A facsimile of the typed copy of the bill will be mailed upon receipt of a request addressed to Commandant (G-MHM-2/83), U.S. Coast Guard, Washington, D.C. 20590. &

## MERCHANT MARINE SAFETY PUBLICATIONS

The following publications of marine safety rules and regulations may be obtained from the nearest marine inspection office of the U.S. Coast Guard.\* Because changes to the rules and regulations are made from time to time, these publications, between revisions, must be kept current by the individual consulting the latest applicable Federal Register. (Official changes to all Federal rules and regulations are published in the Federal Register, printed daily except Saturday, Sunday, and holidays.) The date of each Coast Guard publication in the table below is indicated in parentheses following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

The Federal Register will be furnished by mail to subscribers, free of postage, for \$5.00 per month or \$50 per year, payable in advance. The charge for individual copies is 75 cents for each issue, or 75 cents for each group of pages as actually bound. Remit check or money order, made payable to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

CG No.	TITLE OF PUBLICATION
101-1	Specimen Examinations for Merchant Marine Deck Officers (2d and 3d Mate) (4-1-77).
101-2	Specimen Examinations for Merchant Marine Deck Officers (Master and Chief Mate) (4-1-76).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (4-1-72). F.R. 7-21-72, 12-1-72, 6-18-75.
*115	Marine Engineering Regulations (6-1-73). F.R. 6-29-73, 3-8-74, 5-30-74, 6-25-74, 8-26-74, 11-14-74, 6-30-75, 9-13-76.
*123	Rules and Regulations for Tank Vessels (1-1-73). F.R. 8-24-73, 10-3-73, 10-24-73, 2-28-74, 3-18-74, 5-30-74, 6-25-74, 1-15-75, 2-10-75, 4-16-75, 4-22-75, 5-20-75, 6-11-75, 8-20-75, 9-2-75, 10-14-75, 12-17-75, 1-21-76, 1-26-76, 2-2-76, 4-29-76, 9-30-76, 1-31-77.
169	Navigation Rules—International—Inland (5-1-77).
*172	Rules of the Road—Great Lakes (7-1-72). F.R. 10-6-72, 11-4-72, 1-16-73, 1-29-73, 5-8-73, 3-29-74, 6-3-74, 11-27-74, 4-16-75, 4-28-75, 10-22-75, 2-5-76, 1-13-77.
174	A Manual for the Safe Handling of Flammable and Combustible Liquids and Other Hazardous Products (9-1-76).
176	Load Line Regulations (2-1-71). F.R. 10-1-71, 5-10-73, 7-10-74, 10-14-75, 12-8-75, 1-8-76.
182-1	Specimen Examinations for Merchant Marine Engineer Licenses (2d and 3d Assistant) (4-1-75).
182-2	Specimen Examinations for Merchant Marine Engineer Licenses (First Assistant) (4-1-76).
182-3	Specimen Examinations for Merchant Marine Engineer Licenses (Chief Engineer) (4-1-76).
184	Rules of the Road—Western Rivers (8-1-72). F.R. 9-12-72, 12-28-72, 3-8-74, 3-29-74, 6-3-74, 11-27-74, 4-16-75, 4-28-75, 10-22-75, 2-5-76, 3-1-76, 6-10-76.
*190	Equipment Lists (5-1-75). F.R. 5-7-75, 6-2-75, 6-25-75, 7-22-75, 7-24-75, 8-1-75, 8-20-75, 9-23-75, 10-8-75, 11-21-75, 12-11-75, 12-15-75, 2-5-76, 2-23-76, 3-18-76, 4-5-76, 5-6-76, 6-10-76, 6-21-76, 6-24-76, 9-2-76, 9-13-76, 9-16-76, 10-12-76, 11-1-76, 11-4-76, 11-11-76, 12-2-76, 12-23-76, 4-4-77, 4-11-77, 4-21-77.
*191	Rules and Regulations for Licensing and Certification of Merchant Marine Personnel (11-1-76), 3-3-77.
*200	Marine Investigation Regulations and Suspension and Revocation Proceedings (5-1-67). F.R. 3-30-68, 4-30-70, 10-20-70, 7-18-72, 4-24-73, 11-26-73, 12-17-73, 9-17-74, 3-27-75, 7-28-75, 8-20-75, 12-11-75, 5-6-76.
227	Laws Governing Marine Inspection (7-1-75).
239	Security of Vessels and Waterfront Facilities (5-1-74). F.R. 5-15-74, 5-24-74, 8-15-74, 9-5-74, 9-9-74, 12-3-74, 1-6-75, 1-29-75, 4-22-75, 7-2-75, 7-7-75, 7-24-75, 10-1-75, 10-8-75, 6-3-76, 9-27-76, 2-3-77, 3-31-77.
*257	Rules and Regulations for Cargo and Miscellaneous Vessels (4-1-73). F.R. 12-22-72, 6-28-73, 6-29-73, 8-1-73, 10-24-73, 12-5-73, 3-18-74, 5-30-74, 6-24-74, 1-15-75, 2-10-75, 8-20-75, 12-17-75, 4-29-76, 6-10-76, 8-5-76, 9-30-76, 1-31-77.
258	Rules and Regulations for Uninspected Vessels (5-1-70). F.R. 1-8-73, 3-2-73, 3-28-73, 1-25-74, 3-7-74.
*259	Electrical Engineering Regulations (6-1-71). F.R. 3-8-72, 3-9-72, 8-16-72, 8-24-73, 11-29-73, 4-22-75, 6-24-76.
268	Rules and Regulations for Manning of Vessels (12-1-73).
293	Miscellaneous Electrical Equipment List (7-2-73).
*320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (7-1-72). F.R. 7-8-72.
*323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (9-1-73). F.R. 1-25-74, 3-18-74, 9-20-74, 2-10-75, 12-17-75, 9-30-76, 1-31-77.
329	Fire Fighting Manual for Tank Vessels (1-1-74).
439	Bridge-to-Bridge Radiotelephone Communications (12-1-72). F.R. 12-28-72, 3-8-74, 5-5-75.
467	Specimen Examinations for Uninspected Towing Vessel Operators (10-1-74).

### CHANGES PUBLISHED DURING APRIL 1977

CG-190, Federal Register of April 4, 11, & 21.

\*Due to budget constraints or major revision projects, publications marked with an asterisk are out of print. Most of these pamphlets reprint portions of Titles 33 and 46, Code of Federal Regulations, which are available from the Superintendent of Documents. Consult your local Marine Inspection Office for information on availability and prices.

