PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL

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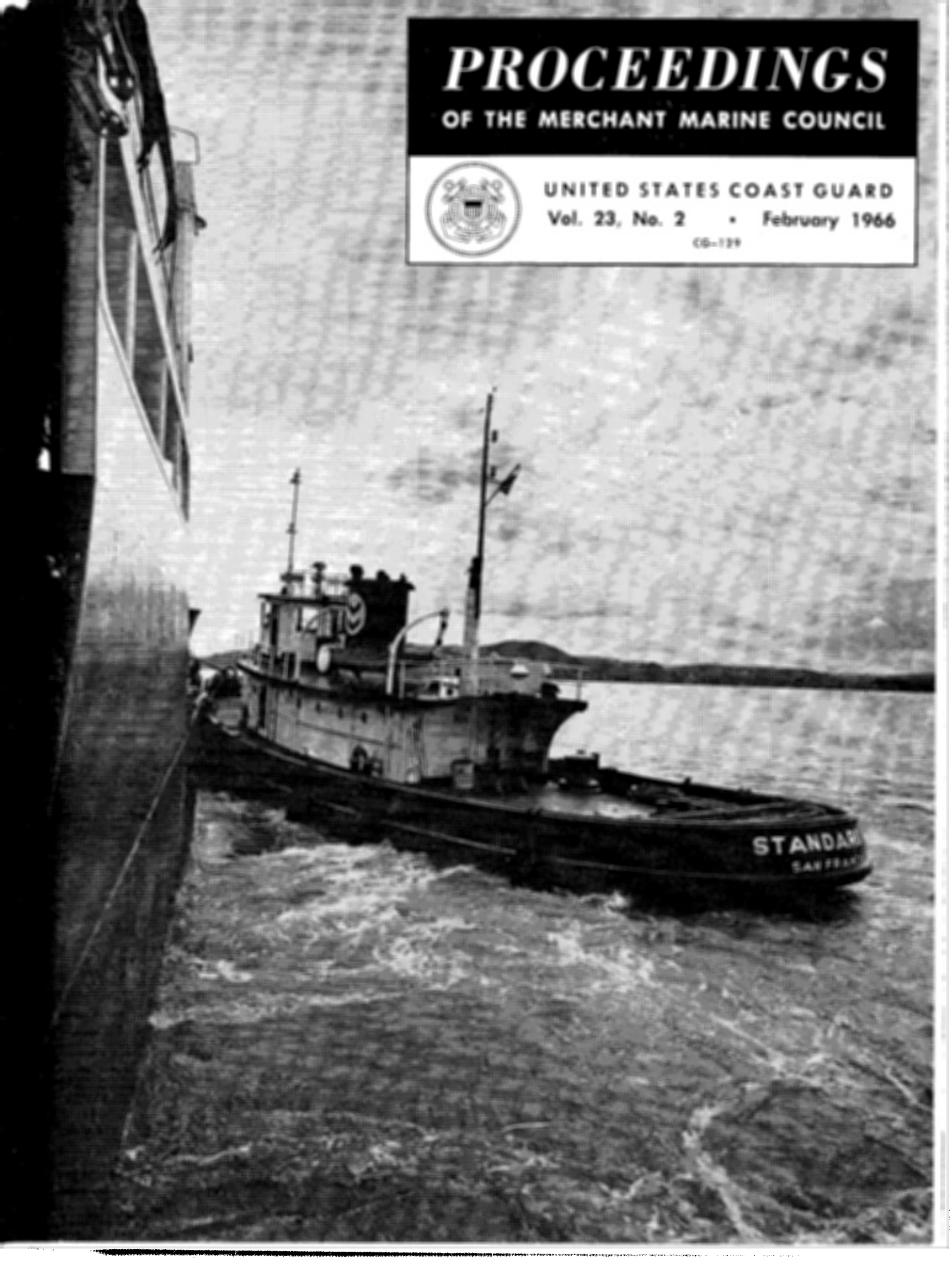

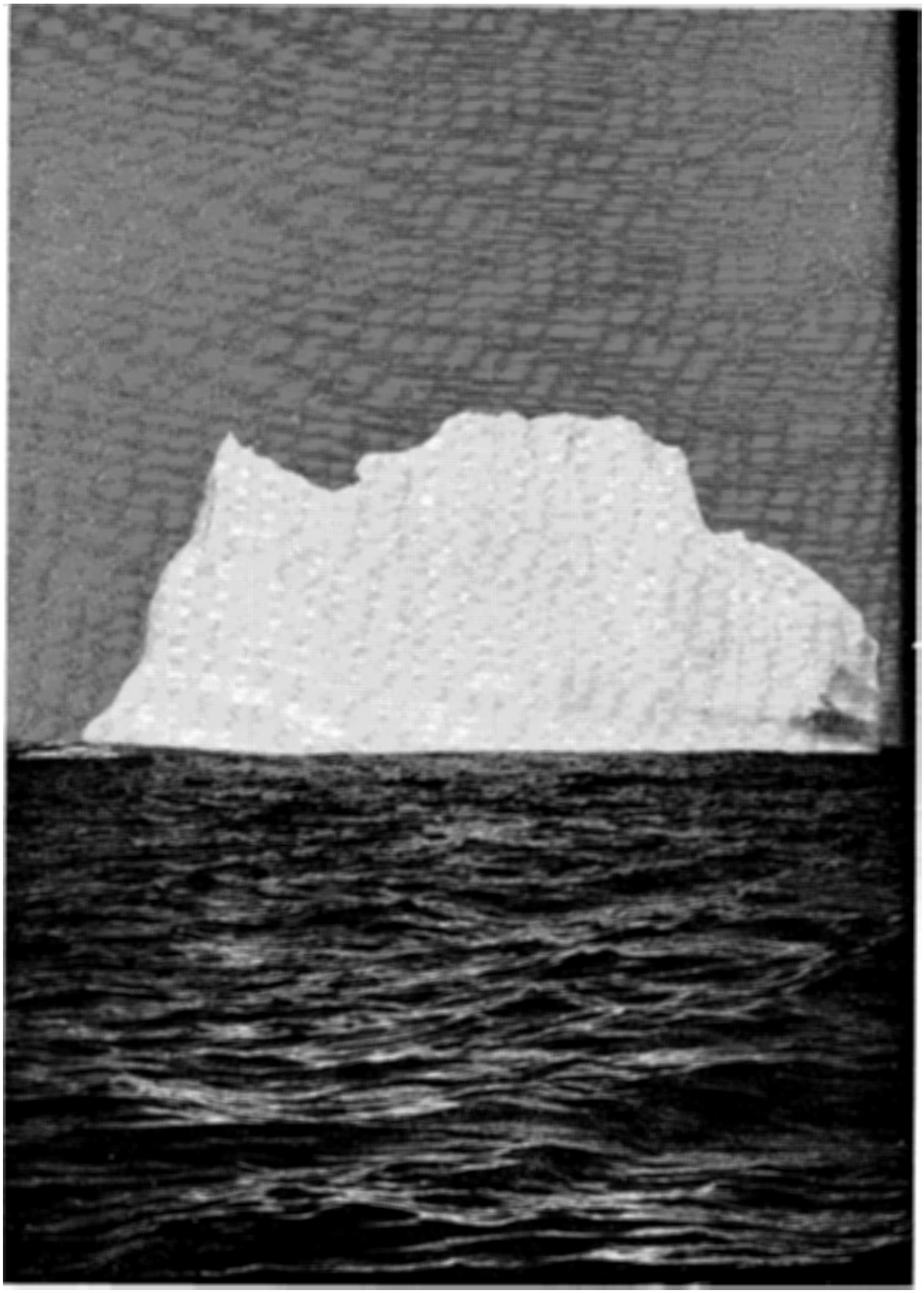

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OF THE

MERCHANT MARINE COUNCIL

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Lieutenant A. J. Arnett, USCG, *Editor*

T. A. DeNardo, *Assistant Editor*

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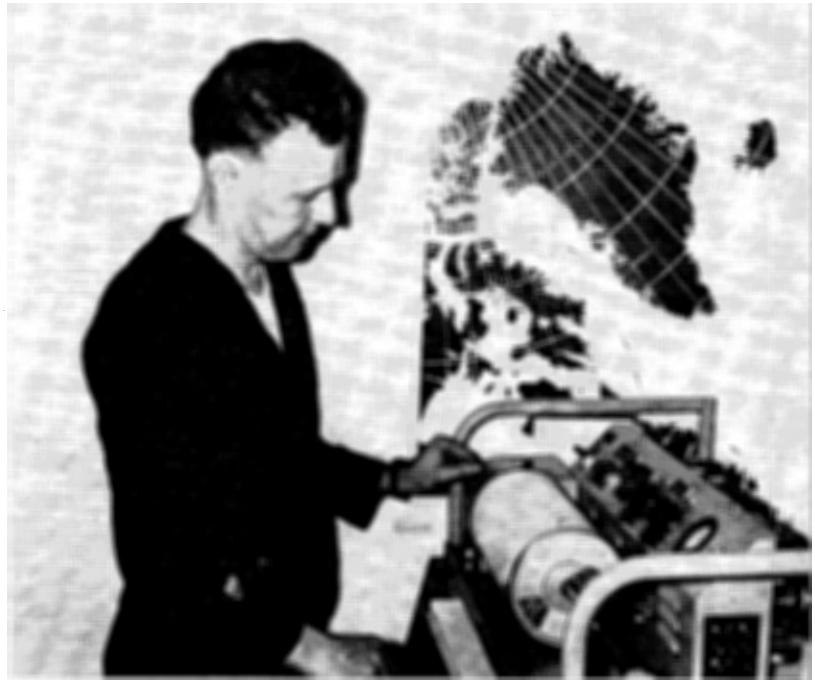

Ice Patrol Information Goes Out From Coast Guard Ice Patrol Headquarters in Argentia, Newfoundland.

THIS COPY FOR NOT LESS THAN 20 READERS—PLEASE PASS IT ALONG

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D: i(5); a b c d e f h k l m r u v w(1)
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Another Iceberg Hunting and Charting Season Will Soon Commence for the Coast Guard. Here Are the Details of the Patrol and Instructions for Shipping.

1966 Ice Patrol

THE U.S. COAST GUARD will commence International Ice Patrol services to shipping for the 1966 ice season in late February or early March, depending upon ice conditions.

The primary objective of International Ice Patrol is to provide timely information and warning to shipping of the extent of the southeastern, southern, and southwestern limits of the regions of icebergs and sea ice in the vicinity of the Grand Banks.

To accomplish this objective, International Ice Patrol maintains facilities during the ice season at Argentia, Newfoundland, for:

a. Collection of ice, weather, and sea temperature reports from shipping and aircraft traversing the Grand Banks area.

b. Operation of aircraft from Argentia for ice reconnaissance.

c. Operation of an oceanographic vessel for the collection of oceanographic and meteorological data.

d. Operation of surface patrol craft when required.

e. Evaluation and analysis of all data collected, including pertinent ice reports from all sources.

f. Forecasting ice conditions based on latest observed conditions and meteorological and oceanographic factors.

g. Dissemination of observed and forecast ice conditions by means of U.S. Coast Guard Radio Argentia (NIK), Naval Radio, Washington (NSS), and Radio Halifax (CFH).

Reports From Shipping

Each ice broadcast by NIK will contain a request for all ships to report any ice sighted, and, when in the area between latitudes 40° N. and 50° N. and longitudes 42° W. and 60° W., to report every 4 hours, the ship's position, course, speed, visibility, sea temperature, and weather conditions. *These reports by shipping are of the utmost importance.* During periods of low visibility or low ceilings when aerial ice observation is rendered ineffective, ice reports by shipping are invaluable in aiding Ice Patrol to relocate drifting ice and to keep the position of that ice, as reported in the ice broadcasts, up to date. Visibility reports are of considerable value in planning ice-observation flights. Visibility reports are also useful in determining when special warnings on ice conditions should be broadcast. Sea temperatures reported to the Ice Patrol are used to construct isotherm charts employed in estimating ice deterioration and in detecting shifts in the branches of the Labrador Current. Wind data is useful in estimating set and drift of ice, and in forecasting weather for the purpose of planning ice observation flights.

In reporting ice to NIK, it is important that certain information be furnished in order that the report be evaluated correctly, especially from the standpoint of ruling out occasional erroneous reports and obviating unnecessary searches and warnings to shipping. The information desired is: (1) the type of ice sighted, i.e. berg, growler, or sea ice (Note: if a radar target is believed to be ice but is not actually sighted visually, it should be reported as a radar target, not as berg, growler or sea ice); (2) the position of the ice (not the position of the reporting ship); (3) description of ice, size and shape; (4) the sea temperature at point of closest approach to the ice; and, (5) weather and visibility conditions.

In view of the heavy reliance placed by Commander, International Ice Patrol on reports of ice, visibility, sea temperature, and weather from shipping, all shipmasters are strongly urged to make these reports. It is realized that ships with but one radio operator may find it impracticable to report every 4 hours as requested. It is therefore suggested that those ships prepare 4-hourly reports but delay transmitting them until the radio operator comes on watch. A late report is much better than no report.

Twice-Daily Ice Broadcasts

Ice broadcasts will be made twice daily, at 0048 and 1248 GMT, by U.S. Coast Guard Radio Argentia (NIK) on 155, 5320, 8502, and 12880.5 kc s. Each broadcast will be preceded by the general call CQ on 500 kc/s. with instructions to shift to receive on 155, 5320, 8502, or 12880.5 kc/s. After shifting to these frequencies, NIK will transmit a test signal and the International Ice Patrol radio call sign, NIK, for about 2 minutes, to facilitate tuning. The ice broadcast will follow immediately at 15 words per minute and then be repeated at 25 words per minute. Prescribed radio silent periods will be observed. Special notices will be published in the event any changes occur in transmission of the ice broadcasts.

Special Broadcasts

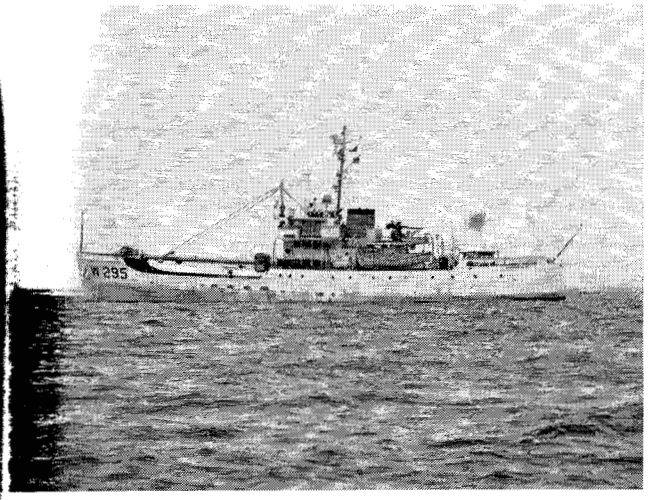
When deemed advisable, special ice broadcasts may be made in addition to those regularly scheduled. Such special ice broadcasts will be preceded by the international safety signal "TTT."

Facsimile Broadcasts

Ice conditions will be transmitted daily by facsimile at 1330 GMT on 5320, 8502, and 12880.5 kc/s at a drum speed of 60 r.p.m. All ships receiving these transmissions are requested to mail the facsimile chart copies, with notations of date received and ship's position, to the Commander, International Ice Patrol, Box 49, FPO, New York, 09597, for evaluation of effectiveness.

NIK-Ship Communications

Duplex operation will be used between NIK and merchant ships for general radio communications, such as requests for special information, reports made by merchant ships of ice sighted, sea temperatures, visibility, and weather conditions.



Courtesy National Geographic Society

The Coast Guard Cutter Evergreen *is to be the primary ice patrol vessel for the 1966 International Ice Patrol. The* Evergreen *is a former 180' buoy tender specially converted to perform oceanographic duties. She is seen here passing close to an iceberg during the 1965 patrol. The* Evergreen's *home port is Woods Hole, Mass., her commanding officer is Lt. Cdr. Frederick J. Lessing, USCG. Commander of the 1966 International Ice Patrol is Capt. Richard L. Fuller, USCG.*

Something old, something new. A new experiment in detecting iceberg drift and deterioration processes was conducted on the U.S. Coast Guard oceanographic vessel Evergreen *off Newfoundland during the 1965 Ice Patrol season. From the deck a crewmember arches a bow, aiming a dye-tipped arrow at a selected iceberg target about 150 yards away from the ship. As the tube of dye shatters against the berg, it will leave an 8- to 10-foot stain that will last about 3 days. This method makes it easier for the Coast Guard oceanographers to keep track of bergs, which change shape and direction according to variations in winds and currents.*

Dye colors used are green, red, and four shades of blue. The reason for choosing the bow and arrow is because it's the simplest and most economical way to mark icebergs.

Calling-Working

Merchant ships may call NIK on 500 kc/s, 8 mc/s, and 12 mc/s maritime calling band at any time. Ships work 425, 448, 454, 468, or 480 kc/s, or their assigned HF working frequency. NIK will work 427 kc/s, 8734 kc/s, or 12718.5 kc/s. The surface patrol vessel, radio call sign NIDK, when on station, will relay between NIK and ships when necessary. There is no charge for these services.

Broadcasts by Other Stations

Throughout the ice season U.S. Navy Radio Washington (NSS) and Halifax (CFH) will broadcast twice-daily ice reports as furnished by Commander, International Ice Patrol at 0430 and 1630 GMT, and 0130 and 1330 GMT, respectively.

See Notice to Mariners for the exact date when the ice broadcasts and operations of the International Ice Patrol will commence.

Until the inauguration of the International Ice Patrol services, all reports of ice sightings should be addressed to the U.S. Naval Oceanographic Office, Washington, D.C., 20390, and thereafter to Commander, International Ice Patrol (NIK).

Gulf of St. Lawrence Information

Aerial ice reconnaissance and dissemination of ice information is also performed for shipping by the Canadian Department of Transport. Ships may obtain ice information about this area by contacting Ice Information Officer, North Sidney Radio (VCO). This organization, during the period from mid-December 1965 to 30 June 1966, will operate mainly in the Gulf of St. Lawrence and approaches, and the coastal waters of Newfoundland and Labrador to the entrance of Hudson Strait. Details of these services are available in the publication "Guidance to Merchant Ships Navigating in the Gulf of St. Lawrence in Winter", published annually by the Marine Operations Branch, Department of Transport, Canada.

Merchant Vessel Position Reports

In accordance with the provisions of the Automated Merchant Vessel Reporting System (AMVER), U.S. Coast Guard Radio Argentia (NIK or NJN) will accept merchant vessel position reports for relay to U.S. Coast Guard, New York. These reports should be separate from the ice and sea temperature reports addressed to Commander, International Ice Patrol.

Search and Rescue

International Ice Patrol-assigned aircraft and vessels will render assistance to persons and property within the limits of operation when required.

Warning

Tests, carefully conducted by International Ice Patrol in the past, have proven that radar cannot provide positive assurance for iceberg detection. Sea water is a better reflector than ice. This means that unless a berg or growler is observed on radar outside the area of sea "return" or "clutter" on the scope, it will not be detected by the radar. Furthermore, the average maximum range of radar detection of a dangerous size growler is 4 miles. Radar is a valuable aid, but its use cannot replace the traditional caution exercised in a passage across the Grand Banks during the ice season. ⚓

Automation on the Great Lakes

Lt. Frank J. Ropiak, USCG

THE STRATEGY for successful automation is to make a group of systems work simultaneously to perform the objective of unattended boiler operation in a safe, economical, and timely manner.

Because of cost reduction interests within the steel industry, studies were undertaken to operate American-flag Great Lakes vessels more economically. The first venture was that of eliminating the firemen by automating the power boilers on vessels equipped for oil firing.

In general, excellent operational automated-control systems were designed by adopting the following four steps: (1) Defining the overall system requirements; (2) allocating human-controller functions; (3) attempting some type of formal analysis; and, (4) development of simulation and equipment tests. The result appears to be stable, reliable, has good response, and most of all has user and Coast Guard acceptance.

It has been 2 years since the start of automation and semiautomation of oil-fired power boilers on the Great Lakes, and it appears that the experiment has been a success. The first two ships that were automated were the SS *William G. Mather* and the SS *Ben Moreell.* Each had individual automation problems inherent in their design.

A major suspected problem on the *Mather,* a one-boiler, turbine-driven ship, was that of boiler feedwater level control when maneuvering in confined waters. Since unattended operation is mandatory from a no-load to full-load condition, the feedwater problem appeared to be critical. A feedwater regulator that was dependent upon the water level alone for its operation obviously would not respond quickly enough for satisfactory operation at high steaming rates in this single boiler design. It would require less than 2 minutes to evaporate all the water in the drum if the feeding were stopped during a period of a sudden high-steam demand. Water swell only compounded the problem. To obviate the problem a two-element feedwater regulator operating on water level and steam flow was incorporated with much success. In this respect it is noteworthy that some experimentation has begun on three- and four-element regulators for possible use on flash-type boilers.

The equipment for automation on the *Mather* includes a computer-logic, burner-control system which lights off or secures burners automatically as a function of load. If loss of ignition occurs on one or more burners, shutdown results through successful flame monitoring. A predetermined pr gram as set up in the computer-log system establishes the sequence which dampers, lighters, fuel valv air registers, etc., are operated start-and-secure cycles. Safety i terlocks for low water level, a force draft blower trip-out, and an abno mal condition during light-off are a

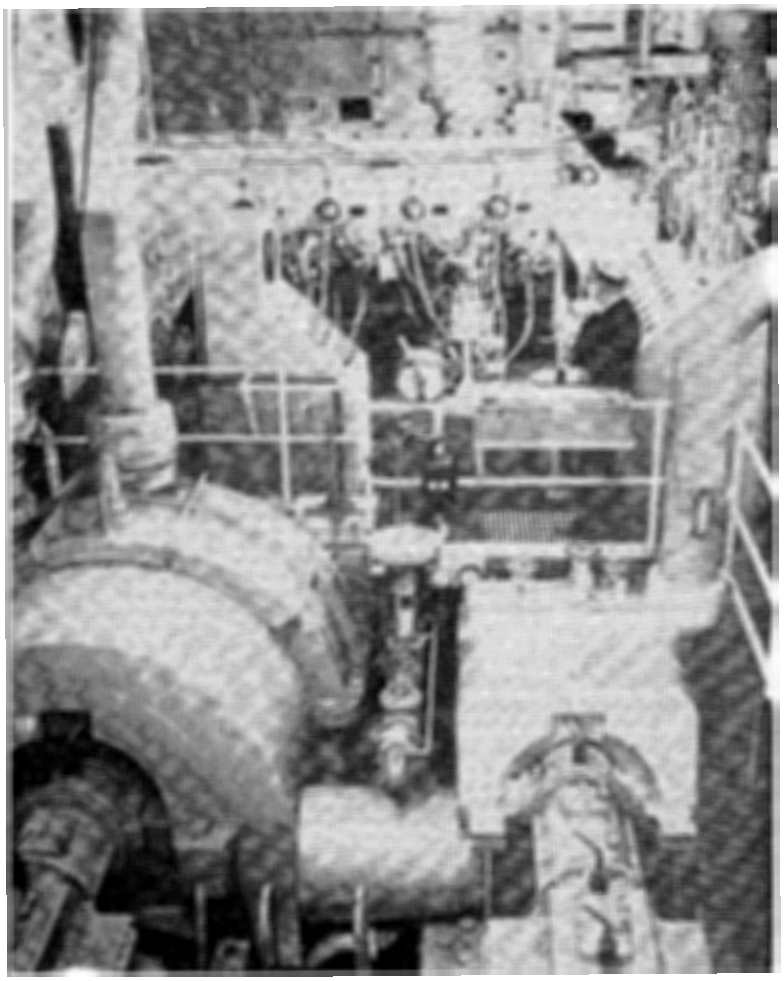


FIGURE 1 This view of the engineroom of the SS William G. Mather *shows the first power boiler automated using the design of the Bailey Meter Co. of Cleveland, Ohio.*
The principle of this automation is fundamentally based on computer-logic electronics. Not shown is the logic cabinet and test panel.
The close proximity of the boiler front and main turbine to engine control, together with excellent automation design, helped to make this plant ideal.

provided as a function of this system. Steam purge cleaning of the retracting high-spark ignitors during the securing sequence was used to greatly decrease the need for cleaning burners. In principle this was a good idea. However, in practice it did not work successfully and was soon dismantled. A basic economy and safety problem solved by this on-off system is based on the fact that the maximum rate of combustion also determines the minimum rate of combustion, because, as the rate of firing is reduced a rate is reached at which the absorbing effect of the water walls reduces the furnace temperature enough to interfere with efficient combustion.

A dependable flame-monitoring system is the heart of the safety aspect of an automated power boiler. On the *Mather* each burner is monitored by two detectors. If adjusted properly, these detectors will sense an improper flame and at the same time will not be susceptible to false trips caused by normal variations in burner operation.

The SS *Ben Moreell,* equipped with a two-boiler, reciprocating plant, was automated on the principle of electric relays, mechanical linkages, and diaphragm controls. The light-off sequence on this vessel is controlled by a timer similar in principle to an ordinary washing machine timer. This system is recycled by manually resetting the timer when a flame-out occurs. A low firing range permits rapid maneuverability without the necessity of on-off boiler firing. Each boiler is equipped with a single burner. Two atomizers in the single burner throat fire simultaneously and operate through a turndown range of not less than 8 to 1. This means that if the steam demand drops below one-eighth of full load, one of the two atomizers shuts off automatically providing a sudden decrease to one-sixteenth of full load or less. At this point it is worthy to note that on both vessels, as required by regulation, remote manual light-off or securing of the burners by the watch engineer is provided.

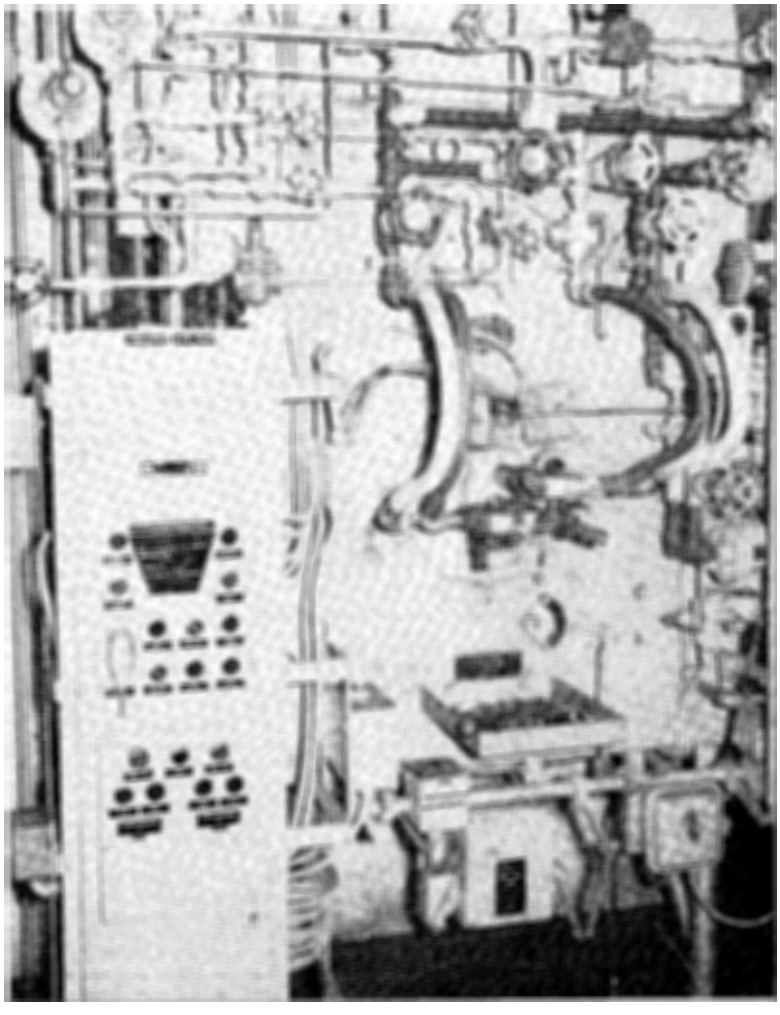


FIGURE 2 This view of the starboard boiler front on the SS Homer D. Williams *shows the control stand together with the burner and its appurtenances. Not shown is the freestanding master control panel which is adjacent to engine control. This system designed by the Coen Co. of San Francisco, Calif., is similar to that on the SS* Ben Moreell. *This design has been used on commercial boilers with much success. The problem was simply making it adaptable for marine use.*

A major test on the reciprocating plant of the *Moreell* was that of testing the remote operation of the boilers without being able to see the burners at main engine control. The central control panel located at engine control sends coordinated electric signals by means of a steam diaphragm-type master controller to each burner control panel at the boiler fronts. In an emergency, because of the remote location of the boiler fronts, these burner controls would have to be operated individually calling for an additional man in the engineroom to answer engine orders. Because of continuous operation without malfunctions and the incorporation of the emergency engineer's call system, this problem was not as critical as first anticipated.

The long purge interval on both designs brings up another problem inherent on vessels operating on the Great Lakes. What if the boilers tripped off during a critical maneuvering period? On the Great Lakes this problem is especially acute because of the confined waters which these vessels transit when proceeding to and from the upper lakes. Would the engineer on watch fire the boilers manually or would he allow the boilers to recycle and possibly allow the steam pressure to drop off during the required 1½- to 2-minute purge interval? Coordinated action taken by vessel personnel to cope with every emergency circumstance solved this problem.

Another problem connected with automated vessels on the Great Lakes is that of extreme vibrations encountered on the shallow waters of Lake Erie. How much can the automation and instrumentation equipment take before something vibrates loose? The answer to this problem obviously rests with the design engineers. Vibrational dampers have been installed

(*Continued on page 39*)

The annual public hearing to air proposed changes to Coast Guard regulations will convene March 21, 1966, in Washington. To early apprise those affected by the proposed changes, they are here carried in abbreviated form. Written comments must be submitted in triplicate prior to March 18, 1966.

Public Hearing Set for March 21

THE MERCHANT MARINE COUNCIL will hold a hearing on Monday, March 21, 1966, commencing at 9:30 a.m. in the departmental auditorium, between 12th and 14th Streets on Constitution Avenue NW., Washington, D.C., for the purpose of receiving comments, views, and data on the proposed changes in the navigation and vessel inspection rules and regulations.

These proposals are as set forth in items I to XII, inclusive, of the Merchant Marine Council Public Hearing Agenda, GC–249, dated March 21, 1966. The Agenda contains the specific changes being proposed to the navigation and vessel inspection regulations. For certain items the present and proposed regulations are set forth in comparison forms, together with reasons for the changes.

These proposals are set forth officially in the Federal Register which contains general descriptions of the proposed changes in the regulations together with appropriate references to statutes authorizing such requirements.

Copies of the Agenda have been mailed to persons and organizations who have expressed a continued interest in the subjects under consideration and have requested that copies be furnished them. Copies of the Agenda will be furnished, upon request to the Commandant (CMC), U.S. Coast Guard, Washington, D.C., 20226, so long as they are available. After the supply of extra copies is exhausted, copies will be available, for reading purposes only, in room 4211, Coast Guard Headquarters, or at the offices of the various Coast Guard District Commanders.

Comments on the proposed regulations are invited. Written comments containing constructive criticism, suggestions, or views are welcomed. Each oral or written comment is considered and evaluated. If the comment, view, or suggestion is believed to clarify or improve a proposed regulation or amendment, such proposal is changed accordingly and, after adoption by the Commandant, the regulations as revised are published in the Federal Register. However, acknowledgment of the comments received or reasons why the suggested changes were or were not adopted cannot be furnished since personnel are not available to handle the necessary correspondence involved.

Each person or organization who desires to submit comments, data, or views in connection with the proposed regulations set forth in the Merchant Marine Council Public Hearing Agenda should submit them in triplicate so that they will be received by the Commandant (CMC), U.S. Coast Guard Headquarters, Washington, D.C., 20226, prior to March 18, 1966. Comments, data, or views may be presented orally or in writing at the public hearing before the Merchant Marine Council on March 21, 1966. In order to insure consideration of written comments and to facilitate checking and recording, it is essential that each comment regarding a section or paragraph of the proposed regulations be submitted on form CG–3287, showing the section number (if any), the subject, the proposed change, the reason or basis, and the name, business firm or organization (if any), and the address of the submitter. A small quantity of form CG–3287 is attached to the Agenda. Additional copies may be reproduced.

Each item in the Agenda has been given a general title, intended to encompass the specific proposals presented thereunder. It is urged that each item be read completely because the application of proposals to specific employment or types of vessels may be found in more than one item.

On the following pages the *Proceedings* presents only the most succinct synopses of the proposed items of revision approved to press time for proposal at the hearing. The Agenda must be consulted for full particulars.

SYNOPSES OF 1966 PUBLIC HEARING ITEMS

ITEM I—RECREATIONAL BOATING

Ia—UNIFORM STATE WATERWAY MARKER SYSTEM; PRIVATE AIDS TO NAVIGATION

Regulations designated 33 CFR 66.05 and 66.10 are proposed to be added to the existing aids to navigation rules.

The significant increase in boating activities throughout the country in recent years has resulted in correspondingly greater need for marking waterways used by recreational and pleasure boaters. The joint cooperative efforts of the various State governments and the Coast Guard have developed a system of uniform waterway markers, the "Uniform Waterway Marker System," suited for all water areas and types of small craft. The "Uniform Waterway Marker System" proposed will supplement the United States lateral system of buoyage and should provide substantial benefit to small-craft operators in the form of increased boating safety.

The proposed subpart 66.05, entitled "State Aids to Navigation," consists of 66.05–1 to 66.05–60, inclusive, and contains the administrative procedures applicable to State governments to enable them to establish, operate, and maintain aids to navigation in waters within a State which are classed as "navigable waters of the United States" and which are not marked by the Coast Guard.

The proposed subpart 66.10, entitled "Uniform State Waterway Marker System," consists of 66.10–1 to 66.10–45, inclusive, and describes the "Uniform Waterway Marker System," which is comprised of two general classes of markers. First, those markers which consist of regulatory markers used to indicate the existence of regulation areas, such as speed zones or restricted areas, as well as to provide directions. Second, those markers which consist of aids to navigation markers used to indicate to small-boat operators the channel limits within which boats may be operated in relative safety.

Ib—BOATING ACCIDENTS, REPORTS AND STATISTICAL INFORMATION

Amending of 46 CFR 173.01–5(b) is proposed to clarify what vessels are required to submit accident reports.

The reporting of boating accidents is required by the Motorboat Act of 1940, as amended, and the reporting of marine casualties by Revised Statute 4450, as amended, and certain other related laws. These provisions of law place specific duties on the Coast Guard when certain casualties occur on Coast Guard-inspected vessels, or an accident occurs as a result of a casualty on waters subject to the jurisdiction of the United States. It is realized that the overlapping of reporting requirements occurs when laws are prescribed for different purposes and at different times. The different scopes of application must be clarified by regulations intended to implement each law.

Under the Federal Boating Act of 1958, the various States (currently 46) have assumed certain responsibilities and receive reports of boating accidents involving various vessels depending on State regulations. Where a boating accident occurs and is not reportable to the State or where there is no approved State boating act in effect, the Coast Guard regulations in part 173 of subchapter S (Numbering of Undocumented Vessels, Statistics on Numbering, and "Boating Accident Reports" and Accident Statistics) of chapter I of 46 CFR apply. It is proposed to amend 46 CFR 173.01–5(b), describing "reportable boating accidents," to clarify what vessels are required to submit accident reports under the regulations in 46 CFR Part 173 (vessels involved are uninspected numbered vessels and other uninspected vessels used for pleasure or recreational purposes) as well as to have the regulation revised to conform to current practices in reporting of boating accidents. The proposed change does not alter present reporting procedures.

ITEM II—SMALL PASSENGER-CARRYING VESSEL

IIa—FIRE PROTECTION EQUIPMENT; MINOR CHANGES

Amending of 46 CFR 176.25–25 and 181.30–1 is proposed to allow for certain substitutions in approved fire extinguisher coverage.

The use of vaporizing liquid-type fire extinguishers containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids has not been permitted on small passenger-carrying vessels since January 1, 1962. The proposed amendments to 46 CFR 176.25–25 and 181.30–1, regarding fire extinguishing equipment, will state that such extinguishers are not approved and are not permitted on any vessel, and will remove obsolete requirements which have served their purpose. It is proposed to change table 181.30–1(a) in 46 CFR 181.30–1(a) so as to permit the substitution of two (2) B–1 portable fire extinguishers for one (1) B–II extinguisher presently required for the propulsion machinery space (where equipment uses diesel oil or other fuel having a flashpoint over 110° F.), vehicular spaces, and accommodations and galley on a small passenger-carrying vessel. This practice is currently permitted on other inspected passenger, cargo, and miscellaneous vessels.

It has been observed that, on a number of small passenger vessels, the fire and bilge pump is driven off the main propulsion engine by means of a belt drive. In such a situation the engine must be stopped before the pump can be engaged. During an emergency this would not be an ideal procedure because the fire pump should be readily available and safe to operate. Therefore, the proposed amendment to 46 CFR 181.01–5 is intended to provide general authority for requiring a more efficient fire and/or bilge pump system on small passenger-carrying vessels. This proposal will be applicable to both existing and new small passenger vessels subject to Coast Guard inspection under the provisions of subchapter T (Small Passenger Vessels) of 46 CFR Chapter I.

IIb—SCOPE OF APPLICATION OF PASSENGER VESSEL REGULATIONS UNDER ACT OF MAY 10, 1956

Amending of 46 CFR 70.05–3 and 70.05–15 is proposed to clarify the regulations' applicability to foreign vessels.

The Coast Guard regulations governing the inspection of passenger vessels are in two subchapters in 46 CFR Chapter 1, and the separation is according to whether the vessels are over or under 100 gross tons, and requirements applied as required by specific laws applicable to individual vessels. The requirements for small passenger vessels under 100 gross tons are in subchapter T, while the requirements for passenger vessels of 100 gross tons and over are in subchapter H. The proposed amendments to 46 CFR 70.05–3 and 70.05–15 state specifically that foreign and U.S. sailing vessels of 100 gross tons and over, but less than 700 gross tons, and carrying more than six passengers, are subject only to Public Law 519, 84th Congress, which is the Act of May 10, 1956, and in sections 390 to 390g, inclusive, in title 46, U.S. Code, and are to be subject to the passenger vessel regulations in subchapter H (46 CFR Parts 70–78). The purpose for these changes is to clarify the application of the regulations in subchapter H (Passenger Vessels).

ITEM III—DANGEROUS CARGOES

Various amendments to the Dangerous Cargo Regulations in part 146 (Transportation or Storage of Explosives or Other Dangerous Articles or Substances and Combustible Liquids on Board Vessels) of subchapter N of 46 CFR Chapter 1 have been necessitated by corresponding changes made in the regulations of the Interstate Commerce Commission governing land transportation of the same commodities. The provisions of Revised Statute 4472, as amended, also in section 170 of title 46, U.S. Code, require that the Coast Guard accept and adopt such definitions, descriptions, descriptive names, classifications, specifications of containers, packing, marking, labeling and certification of explosives or other dangerous articles or substances to the extent as are or may be established from time to time by the Interstate Commerce Commission insofar as they apply to shippers by carriers engaged in interstate and foreign commerce by water. Therefore, amendments applying only to shippers' requirements upon which the Interstate Commerce Commission has already complied with the Administrative Procedure Act are not included in the Agenda for the 1966 Merchant Marine Council Public Hearing but will be published as a separate document in the Federal Register.

The Safety of Life at Sea Convention of 1960 considered the requirements of the 1948 Convention pertaining to the transport of dangerous goods by sea. The scope of regulations, chapter 6, concerning dangerous goods was broadened and brought up to date at this conference. Chapter 7, of the 1960 Convention, prescribes general requirements for the transportation of dangerous cargoes by water. These regulations cover the classification, packing, marking, labeling, documents, and stowage which shall apply to dangerous articles carried aboard vessels on international voyages.

In order to comply with these requirements certain changes to the Dangerous Cargo Regulations are proposed to cover the shipment of these cargoes when they are on board U.S. vessels engaged in international trade or on foreign vessels within the navigable waters of the United States. The Coast Guard Dangerous Cargo Regulations recognize the area of jurisdiction of the Interstate Commerce Commission and these proposals will not disturb the present regulations which stipulate that shipments of dangerous cargo by water in domestic trade, or import or export shipments that move by land and water are required to comply with ICC Regulations (49 CFR Parts 71 to 79) within a port area. In this respect only, shipments in international trade have been accorded certain exceptions from the Coast Guard Dangerous Cargo Regulations regarding descriptions, packing, marking, and labeling in deference to a foreign nation's own regulations.

To clarify these requirements and to incorporate additional detailed requirements imposed by the 1960 Convention, the following changes are being proposed:

a. Revision of 46 CFR 146.01–1 and 146.03–36 to make reference to the 1960 Convention now in effect.

b. Revision of 46 CFR 146.01–4 to include a description of the dangerous cargo classifications that are prescribed by the Convention. To make provision for the use of these international descriptions, it is proposed to further amend the section so as to permit the use of the terms in international trade.

c. Revision of the export and import requirements in 46 CFR 146.02–10 and 146.02–11 to describe more clearly under what conditions import and export shipments, not covered by Interstate Commerce Commission regulations, may be carried aboard ship.

d. Revision of 46 CFR 146.05–11(a) to require a certification covering any dangerous cargo, regardless of whether packages are labeled or not. The Convention specifically states that shipping documents for dangerous cargoes prepared by the shipper shall include a certificate or declaration that the shipment offered is properly prepared for carriage. No exemption is provided for articles that are not labeled.

e. Revision of 46 CFR 146.05–12, 146.05–15, and 146.06–15 to require that chemicals, which have as a proper shipping name a class description followed by the abbreviation "N.O.S.," shall be further identified by a correct technical name. The Convention clearly states that where goods are named or containers are marked, the correct technical name shall be used.

f. Revision of 46 CFR to require that flammable liquids transported below decks must be stowed in ventilated holds. On passenger vessels, these holds must be fitted with either an overhead water sprinkler system or a fixed fire-smothering system.

g. Revision of 46 CFR to require ventilated-hold stowage for combustible liquids on passenger vessels, and to specify that a fixed fire extinguishing system be installed in the hold.

The commodity list, 46 CFR 146.04–5, has been amended to cover "Rubber curing compounds (solid)," which ignite readily when exposed to sparks or open flames. One such compound, para-quinone dioxime, has been specified by name. The entry covering automobiles has been amended to also cover mechanized equipment containing gasoline or other motor fuel within the fuel tank.

The provision of 46 CFR 146.07–1, 146.07–10, 146.22–100, 146.23–100, 146.24–100, and 146.25–200 have been amended to clarify the requirements applicable to a vessel carrying vehicles filled with dangerous articles. The amendments to 46 CFR 146.07–1 specify that unless special loading or discharging gear is provided which will not add additional stresses to the vehicles, these vehicles are to be handled by roll-on/roll-off method. This is necessary to prevent damage to the containment portion of the vehicle when stresses are imposed by lifting for which the vehicle was not designed. The provisions of 46 CFR 146.07–10 have been amended to specify that railroad or highway vehicles to which is attached a tank containing dangerous articles are not permitted aboard vessels unless specifically provided for in the tables. The subject tables have been amended to indicate the commodities permitted in tank cars and tank trucks.

The regulations in 46 CFR 146.22–100 covering ammonium nitrate and ammonium nitrate formulations have been amended to provide for use of wooden or fiberboard boxes with inside containers as already covered by the Interstate Commerce Commission regulations, and 46 CFR 146.22–30 and 146.22–40 have been amended to indicate how these containers are to be handled. A distinction has been established between nonrigid combustible containers and rigid containers with combustible inside packing on one hand, and rigid containers with noncombustible inside packings on the other. The object is to relate the requirements to the degree of hazard presented by the amount of combustible matter available to the nitrate.

The regulations in 46 CFR 146.27–30 have been amended to clarify certain provisions of the regulations applying to vehicles being transported with fuel in their tanks. Certain basic requirements have been extended to cover vehicles with tanks containing any type of fuel.

The provisions in 46 CFR 146.27–100 and 146.29–59 have been amended to provide for quantities of electrolyte in accordance with the needs of the vehicle for its operation and to account for polyethylene containers of electrolyte. Table K in 46 CFR 146.27–100 has been amended to cover rubber curing compounds which are easily ignitible. The entry covering automobiles has been amended to also cover mechanized equipment containing gasoline or other motor fuel within the fuel tank.

The provisions of 46 CFR 146.29–35 have been amended to extend the authority of the Captain of the Port to permit power tools in holds containing explosives except when explosive dusts or vapors are present.

The provisions of 46 CFR have been amended to require safety hooks or moused hooks when handling military explosives to prevent a sling from accidentally slipping off the hook. This requirement is presently in effect at all military explosives-loading installations.

IIIa—SHIPMENTS IN INTERNATIONAL TRADE AND SUBJECT TO THE 1960 INTERNATIONAL CONVENTION FOR SAFETY OF LIFE AT SEA, CHAPTER VII

Amending of 46 CFR 146.01–1 and 146.03–36 is proposed to update reference to the International Convention for the Safety of Life at Sea, 1960 (SOLAS). Revision of 46 CFR 146.01–4, regarding classification, is proposed to correlate the 1960 SOLAS classifications described in chapter 7, regulation 2, to the Coast Guard classifications and will allow for their use. Revision of 46 CFR 146.02–10(b), regarding export shipments, is proposed to clarify the requirements for labels and will permit labels to be used which are in accordance with regulations of the country of destination for lots of 100 or less packages. Revision of 46 CFR 146.02–11 (b) and (c), regarding import ship-

ments, is proposed to change the requirements to agree with the applicable requirements of the Interstate Commerce Commission in 49 CFR Parts 71–79, and clarify that dangerous goods carried in containers prescribed by the country of origin are permissible within a domestic port area if the shipment is not further shipped under Interstate Commerce Commission jurisdiction.

IIIb—LIST OF EXPLOSIVES AND OTHER DANGEROUS ARTICLES AND COMBUSTIBLE LIQUIDS

Revision of 46 CFR 146.04–5 is proposed to add new items to the commodity list of explosives or other dangerous articles containing the shipping name or description of articles subject to the regulations in this subchapter, as well as provide for mechanized equipment that is not self-propelled.

IIIc—SHIPPER'S REQUIREMENTS RE: PACKING, MARKING, LABELING, AND SHIPPING PAPERS

Amending of 46 CFR 146.05–11, regarding certification, is proposed to require that dangerous cargoes be certificated regardless of whether or not the goods are labeled, and to provide for the certification of goods being transported under 46 CFR 146.02–10 and 146.02–11 in order to accept a certification stating compliance with regulations of the country of origin or destination. This proposal is also in agreement with 1960 SOLAS, chapter 7, regulation 5. Amending of 46 CFR 146.05–12(f)(5), regarding originating shipping order, transfer shipping paper, is proposed to provide for positive identification of dangerous articles that are described by class and the abbreviation "N.O.S." Amending of 46 CFR 146.05–15(e)(1), regarding marking and labeling applying to domestic shipments only, is proposed to provide for positive identification of dangerous articles that are described by class and the abbreviation "N.O.S.". This identification by correct technical name is required by 1960 SOLAS, chapter 7, regulation 5.

IIId—VESSEL'S REQUIREMENTS RE: ACCEPTANCE, HANDLING, STOWAGE, ETC.

Amending of 46 CFR 146.06–15, regarding information required on manifests, lists, or stowage plans, is proposed to provide for positive identification of dangerous articles that are described by class and the abbreviation "N.O.S." This identification by correct technical name is required by 1960 SOLAS, chapter 7, regulation 5.

IIIe—RAILROAD VEHICLES, HIGHWAY VEHICLES, VANS, OR PORTABLE CONTAINERS LOADED WITH EXPLOSIVES OR OTHER DANGEROUS ARTICLES AND TRANSPORTED ON BOARD OCEAN VESSELS

Revision of 46 CFR 146.07–1, regarding applicability and definitions, is proposed to require that vehicles containing dangerous articles loaded aboard vessels be handled by "roll-on/roll-off" method, and to make special provisions for handling operations involving gear designed to be used with cargo vehicles without imposing additional hazards. Revision of 46 CFR 146.07–10(a), regarding tank containers, is proposed to require that the commodities must be permitted in tank containers by the tables before they may be considered for transportation under the provisions of this subpart 146.07.

IIIf—DETAILED REGULATIONS GOVERNING FLAMMABLE LIQUIDS

Revision of 46 CFR 146.21–25, regarding "under deck" stowage, is proposed so that requirements will be in agreement with 1960 SOLAS, chapter 2, regulation 58, and chapter 7, regulation 7.

IIIg—DETAILED REGULATIONS GOVERNING FLAMMABLE SOLIDS AND OXIDIZING MATERIALS

Revision of 46 CFR 146.22–30(c), regarding authorization to load or discharge ammonium nitrate and ammonium nitrate fertilizers, is proposed to clarify the requirements for ammonium nitrate in rigid containers having combustible inside packings or noncombustible inside packings are subject to this regulation, as well as to clarify that plastic bags or liners may be used as noncombustible inside packings for rigid containers in general. Revision of 46 CFR 146.22–40, regarding nitro carbo nitrate, is proposed to clarify that nitro carbo nitrate in rigid containers having combustible inside packings is subject to the requirements in this regulation. The proposed changes to 46 CFR 146.22–100, regarding table E—Classification: Flammable Solids and Oxidizing Materials, which were originally covered by subpart 146.07.

IIIh—DETAILED REGULATIONS GOVERNING CORROSIVE LIQUIDS

The proposed revision of 46 CFR 146.23–100, regarding table F—Classification: Corrosive Liquids, changes requirements for a number of commodities in order to provide for the transportation of such corrosive liquids in tank cars complying with ICC regulations or motor vehicle tank trucks complying with ICC regulations, which were originally covered by subpart 146.07.

IIIi—DETAILED REGULATIONS GOVERNING COMPRESSED GASES

The proposed revision of 46 CFR 146.24–100, regarding table G—Classification: Compressed Gases, changes requirements for a number of commodities in order to provide for the transportation of these compressed gases in tank cars complying with ICC regulations or motor vehicle tank trucks complying with ICC regulations, which were originally covered by subpart 146.07.

IIIj—DETAILED REGULATIONS GOVERNING POISONOUS ARTICLES

The proposed revision of 46 CFR 146.25–200, regarding table H—Classification: Class B; less dangerous poisons, changes requirements for a number of commodities in order to provide for the transportation of these class B poisons in tank cars complying with ICC regulations or motor vehicle tank trucks complying with ICC regulations, which were originally covered by subpart 146.07.

IIIk—DETAILED REGULATIONS GOVERNING COMBUSTIBLE LQUIDS

Amendment to 46 CFR 146.26–25(a), regarding "underdeck" stowage, is proposed containing the requirements of the 1960 SOLAS, chapter 7, regulation 7, and will clarify the requirements by providing that passenger vessels carrying combustible liquids in containers under deck must have these cargo spaces fitted with a fixed fire extinguishing system.

IIIm—DETAILED REGULATIONS GOVERNING HAZARDOUS ARTICLES

The proposed revision of 46 CFR 146.27–100, regarding table K—Classification: Hazardous articles, changes requirements for "automobiles, motorcycles, etc." in order to adopt the terminology set forth by the 1960 SOLAS, to provide for fixed fire-smothering systems, to extend the application to mechanized equipment that is not vehicular, and to provide for certain types of vehicles which require two or more electric storage batteries for normal

operation; as well as to add new requirements for rubber curing compound *(solid) para-quinone dioxime.*

IIIn—DETAILED REGULATIONS GOVERNING THE TRANSPORTATION OF MILITARY EXPLOSIVES AND HAZARDOUS MUNITIONS ON BOARD VESSELS

Amendment to 46 CFR 146.29–35(e), regarding lights, tools, and portable equipment, is proposed to give the Captain of the Port authority to permit use of power-operated tools in holds containing explosives except under certain conditions. The proposed amendment to 46 CFR 146.29–39, regarding handling and sling of explosives, will add requirements to preclude a draft from slipping off the hook and falling should it accidentally hit an obstruction, such as the coaming of a hatch. The proposed amendment to 46 CFR 146.29–59(d), regarding stowage adjacent to other dangerous vehicles, changes requirements for military vehicles with electrolyte by adding equipment with battery electrolyte. These changes were requested by the Department of Defense.

IIIo—VESSELS SPECIALLY SUITABLE AS VEHICLE CARRIERS FOR TRANSPORTING AUTOMOBILES OR OTHER SELF-PROPELLED VEHICLES OFFERED FOR TRANSPORTATION WITH FUEL IN TANKS

Many vessels are today being designed with special capabilities or arrangements to make them suitable for the carriage of motor vehicles with fuel tanks containing gasoline. Because of special problems involved with the handling of gasoline in vehicle tanks, the possible operation of vehicles inside of enclosed spaces, and elimination of ignition sources it is necessary to develop safeguards which will assure a reasonable degree of safety in the handling and carriage of such vehicles. It is proposed to make several changes to the passenger vessel regulations, cargo and miscellaneous vessel regulations, and electrical engineering regulations to require special ventilation and fire-detection-and-extinction features. It is also proposed to change the dangerous cargo regulations to recognize foreign vessels specially designated by their government to carry motor vehicles with fuel tanks containing gasoline. In those vessels not designated as "specially suitable for vehicle" special precautions are required to assure that all ignition sources have been eliminated. The regulations proposed are essentially the same for both cargo and miscellaneous vessels, and for passenger vessels.

It is proposed to add as 46 CFR 70.10–44 and 90.10–38 a definition of a space which is "specially suitable for vehicles." It is proposed to revise the ventilation requirements for passenger vessels in 46 CFR 72.15–15 and for cargo vessels in 46 CFR 92.15–10 by adding the requirements presently contained in the electrical regulations in subchapter J (Electrical Engineering) of this chapter. They are included here primarily for the purpose of clarification and to assure that ventilation is provided when vehicles are carried with battery cables connected. This ventilation is necessary to minimize the possibility of gasoline vapor accumulation and subsequent ignition by the automobile electrical system or other means. The provisions of table 76.05–1(a) in 46 CFR 76.95–1 for passenger vessels and 46 CFR 95.05–1 and 95.05–10 for cargo vessels, regarding fire-detecting-and-extinguishing equipment, are changed to clarify the types of detecting and extinguishing systems which are suitable for spaces "specially suitable for vehicles." It is proposed to add requirements to 46 CFR 76.15–5 and 95.15–5, regarding carbon dioxide extinguishing, for spaces specially suitable for vehicles. Ordinary passenger-vessel cargo space fire extinguishing systems are not designed for protection against flammable-liquid-type fires. To protect against the possibility of a flammable liquid fire, it is necessary to have the capability of releasing the required quantity of carbon dioxide within a relatively short period. This would result in an increase over ordinary cargo space extinguishing system requirements by requiring an increased amount of piping and carbon dioxide nozzles. It is proposed to add a reference to 46 CFR 77.05–1 and 96.05–1, regarding electrical engineering and interior communications systems, to the special electrical requirements in 46 CFR 111.65–10 of subchapter J (Electrical Engineering) of this chapter. In order to prevent concentrations of carbon monoxide which may be harmful to personnel, it is proposed to add new subparts 78.83 and 97.80, entitled "Operation of Vehicles in Enclosed Locations," consisting of 78.83–1 and 97.80–1, respectively, to 46 CFR Part 78.

The proposed changes to 46 CFR 111.65–10 in the electrical engineering regulations are to bring these regulations into agreement with the proposed changes to the regulations for passenger vessels in subchapter H, for cargo and miscellaneous vessels in subchapter I, and for foreign vessels subject to the dangerous cargo regulations in subchapter N of this chapter, with respect to the carriage of automobiles and other self-propelled vehicles with gasoline in the tanks and the batteries connected.

In the dangerous cargo regulations in subchapter N, it is proposed to amend 46 CFR 146.27–30, regarding automobiles or other self-propelled vehicles offered for transportation with fuel in tanks, to provide certain requirements for vehicles with any type of fuel in tanks. The proposals extend certain basic safety requirements originally applicable to only gasoline fueled vehicles to all vehicles being transported with any type of fuel in tanks; clarify requirements to provide that mixed stowages of vehicles are subject to the requirements applying to the most dangerous type of vehicle present; and describe the more stringent requirements applying to vehicles with flammable fuel in the tanks, which deal with disconnecting battery cables except under specified conditions, the necessity for having a fixed fire-smothering system and a smoke- or fire-detection system, and other editorial changes, including changes in terminology to agree with terminology used in the 1960 SOLAS.

ITEM IV—BULK DANGEROUS CARGOES

IVa—PROPYLENE OXIDE

New regulations consisting of 40.10–1 to 40.10–87, inclusive, in 46 CFR Part 40 are proposed for propylene oxide. Because there are at present no regulations governing the bulk shipment of propylene oxide, all proposals for such carriage must be sent to the Commandant for appropriate action. The increasing demand for large quantities of propylene oxide and requests to ship it in bulk now requires a reappraisal of the situation. The reason for not having regulatory requirements for bulk shipments of propylene oxide to date is that the demand for commodity was insufficient to make bulk shipment economically feasible. If the proposals are adopted, it is believed the various officers in charge, marine inspection, will be able to give faster and more efficient service to the shipping industry since all concerned will have readily available the standards governing the bulk shipment of propylene oxide.

IVb—PHOSPHORIC ACID

New regulations consisting of 98.18–1 to 98.18–50, inclusive, in 46 CFR Part 98, are proposed to regulate carriage of "phosphoric acid in bulk." Under present regulations, specific approval must be obtained from the Commandant for the transportation of phosphoric acid in bulk. Under the proposed regulations, it will be possible for the officers in charge, marine inspection, in the Coast Guard field offices to approve bulk shipments of phosphoric acid. It

anticipated that the bulk movement of phosphoric acid will become a matter of increasing commercial importance. For this reason it is desired to provide published standards for the guidance of all concerned in its movement by barge.

ITEM V—ELECTRICAL ENGINEERING

Va—INTRINSICALLY SAFE INSTRUMENTS AND EQUIPMENT

A definition of "intrinsically safe equipment" in 46 CFR 110.15–100(i) is proposed. This definition is in agreement with the term as used in section 500 of the National Electrical Code and the "Recommended Practice, Intrinsically Safe and Nonincendive Electrical Instruments" of the Instrument Society of America. Amendments to 46 CFR 111.60–10(b) and 111.60–40(a), regarding wire and cable installation and wiring methods and materials for hazardous locations, are also proposed to allow the use of intrinsically safe instruments and equipment in or adjacent to oil tanks and cofferdams or in hazardous locations. A regulation designated 46 CFR 111.65–3, entitled "Special requirements for intrinsically safe systems," is proposed to describe applicable requirements governing the use of intrinsically safe equipment, and procedures for obtaining Commandant's approval after evaluation of required plans, etc., which must be submitted, and specifies that laboratories other than the manufacturer's laboratories shall perform certain required tests to insure that all of the requirements are adhered to. Amendments to 46 CFR 111.70–10(c) and 32.45–1(h) are proposed to provide specific exemptions for use of intrinsically safe systems and equipment on tank vessels.

Vb—REFERENCE SPECIFICATIONS AND PUBLICATIONS

Amendments to 46 CFR 110.10–1, regarding reference specifications, standards, and codes are proposed to add references to specifications and publications pertaining to intrinsically safe equipment issued by the Instrument Society of America, Pittsburgh, Pa., and to specification standards pertaining to industrial control equipment for use in hazardous locations issued by the Underwriters' Laboratories, Inc., Chicago, Ill.

Vc—WIRING METHODS AND MATERIALS FOR HAZARDOUS LOCATIONS

Amending of 46 CFR 111.60–40, regarding wiring methods and materials for hazardous locations, is proposed to recognize the class I, division 1, and class I, division 2, hazardous areas, and to outline the equipment and enclosures allowed.

Vd—SWITCHBOARD INSTALLATIONS

Amending of 46 CFR 111.35–1 is proposed to clarify regulations by clearly indicating that the 4-inch requirement governing switchboard installations refers to the overhead deck beams.

Ve—MOTOR CONTROLLERS

Changes to 46 CFR 111.45–1(e), regarding general requirements for motor controllers adjacent to motor driven machinery, are proposed to provide safe methods of isolating the motor which will be less expensive. This change will also bring the Coast Guard regulations and the requirements of the National Electrical Code into closer agreement. A change to this section was proposed in the Agenda for the March 22, 1965, Merchant Marine Council public hearing but was withdrawn.

Vf—FEEDER SIZE AND OVERCURRENT PROTECTION FOR TRANSFORMERS

Changes to table 111.50–20(a) in 46 CFR 111.50–20 and a new paragraph designated 46 CFR 111.55–1(k) are proposed to provide requirements covering feeder size and overcurrent protection for transformers.

Vg—FUSE RATINGS

Revision of 46 CFR 111.55–15(b) regarding plug fuses and fuseholders of type S, is proposed to make regulations agree with the National Electrical Code.

Vh—LIGHTING FIXTURE

A change to 46 CFR 111.60–35, regarding lighting fixtures is proposed to add requirements to provide protection for lamps or fixtures located in certain machinery spaces. Under 46 CFR 110.05–3 this change would apply only to new or replaced installations on existing vessels. This proposal will require protection for lamps in spaces where oil is piped under pressure in order to reduce the fire hazards from sprayed flammable liquid in the event of an oil leak.

Vi—LIQUEFIED FLAMMABLE GAS

Amending of 46 CFR 111.70–5(h) regarding liquefied flammable gas, as defined in the electrical engineering regulations, is proposed in order to remove a limitation which should not be a part of a definition, namely the present regulations in 46 CFR 30.10–39 and 111.70–5(h), define a liquefied flammable gas as a flammable gas that has been "compressed and liquefied for purposes of transportation." In practice the gas may be liquefied by compression or by refrigeration or by combination of compression and refrigeration. The resulting liquid is the same regardless of the method by which liquefied.

Vj—EXPLOSION-PROOF EQUIPMENT INSTALLED ON WEATHER DECK

Amending of 46 CFR 111.70–10(c)(4) regarding weather deck installation requirements on tank vessels handling grade A, B, C, or D liquid cargo, is proposed to bring these requirements into agreement with those in 46 CFR 32.45–1(i) of the tank vessel regulations. The tank vessel regulations presently permit explosion-proof equipment installed on the weather deck to be "protected against the entrance of water by other approved means." The electrical engineering regulations for tank vessels do not contain this clause, although some installations are acceptable only under the clause "other approved means." A change to 46 CFR 111.70–10 is proposed to include the same language as used in the tank vessel regulations in order to clarify application of requirements.

Vk—GENERAL ALARM SYSTEMS

Amending of 33 CFR 113.25–10(a) regarding the power supply for general alarm systems is proposed to permit other loads to be connected to the general alarm batteries in the same manner as permitted under present regulations. The present electrical engineering regulations concerning general alarm power supplies include descriptions of two systems that are in actual practice virtually identical. However, depending on the term used to describe a particular system, one supply can be used for loads other than the general alarm system while the other supply can be used only to supply the general alarm system.

ITEM VI—MANNED PLATFORMS

VIa—PAINTERS PROVIDED FOR LIFEFLOATS

Amending of 33 CFR 144.01–10 regarding equipment for lifefloats on manned platforms is proposed to clarify the intent of the wording so that the size of the painter when it is a manila rope shall not be less than 2¾ inches in circumference and if other material shall be equivalent to such a manila rope but not necessarily of the same size. It is not intended that a synthetic rope shall be 2¾ inches in circumference if a smaller size cannot be shown to be equivalent to manila rope not less than 2¾ inches in circumference. This proposed change is in response to questions whether the present regulations intended that synthetic rope should be at least 2¾ inches in circumference to be considered equivalent to the manila rope specified.

ITEM VII—INSPECTED VESSELS

VIIa—SUBDIVISION OF CERTAIN NONMECHANICALLY PROPELLED VESSELS

Amending of 46 CFR 73.15–5 regarding subdivision of vessels in service other than ocean or coastwise and vessels under 150 gross tons in ocean or coastwise service and not on an international voyage, is proposed to remove an inconsistency in the regulations which presently permit certain vessels of over 100 gross tons not to have a one-compartment standard of subdivision which is presently required for certain nonmechanically propelled vessels under 100 gross tons in identical service.

VIIb—DRYDOCK EXAMINATIONS FOR PUBLIC NAUTICAL SCHOOLSHIPS

Amending of the Rules and Regulations for Nautical Schools (subchapter R) to require drydocking intervals for the vessels inspected under these regulations by adding 46 CFR 167.15–30 is proposed. Since these vessels are normally tied up for long periods of time during each year, it is also proposed to amend 46 CFR 167.15–50 to require tailshaft examinations every 4 years in lieu of 3 years to correspond more closely to the required drydocking period.

VIIc—DEEP SEA SOUNDING APPARATUS FOR VESSELS IN GREAT LAKES SERVICE

Amending of 46 CFR 32.15–10, for tank vessels, 77.27–1(a), for passenger vessels, and 96.27–1(a), for cargo and miscellaneous vessels, is proposed to eliminate the mechanical or electronic deep sea sounding apparatus on some vessels in Great Lakes service. These sounding devices are of little or no value in this area and no situation can be foreseen where the deep sea hand lead would not suffice.

VIId—LIFE PRESERVER FOR BOW LOOKOUT

Amending of 46 CFR 33.35–1, regarding number and type of life preservers required on tank vessels, is proposed to provide a life preserver for the person on watch as a bow lookout and to remove requirements which serve no useful purpose, since the life preservers required for the persons on watch exceed the 5 percent currently required. Amending of 46 CFR 33.35–5, regarding distribution and stowage of life preservers, is proposed to provide for proper stowage of required life preserver for the bow lookout. Amending of 46 CFR 75.40–15(b), regarding distribution of life preservers on passenger vessels, is proposed to provide a life preserver near the bow for the person on watch as bow lookout where it would be difficult in an emergency for him to return to his quarters to get the life preserver presently provided.

Amending of 46 CFR 94.40–10, regarding number of life preservers required on cargo vessels, is proposed to provide a life preserver for the person on watch as a bow lookout and to remove requirements which serve no useful purpose. Amending of 46 CFR 94.40–15, regarding distribution and stowage of life preservers is also proposed to provide for the proper stowage of life preservers to include those provided for bow lookouts.

VIIe—LIFE PRESERVERS, GENERAL, FOR MERCHANT VESSELS

Amending of 46 CFR 160.001–2 and 160.001–3 is proposed to bring up to date the specification and to list therein the general characteristics and requirements that are applicable to all Coast Guard-approved life preservers.

VIIf—LIFE PRESERVERS, UNICELLULAR PLASTIC FOAM, ADULT AND CHILD

The following changes to 46 CFR 160.055–1 to 160.055–8, inclusive, are proposed:

(a) Revision of the standard rigging arrangement so it will be the same as an improved method that is now used on several approved life preservers. This proposed arrangement will permit placing the dee ring at the front. This arrangement makes it easier to secure and adjust the preserver.

(b) New requirements to allow molded standard life preservers. This proposed design of molded life preservers has been permitted in some currently approved molded life preservers.

(c) Changed the industry specifications to refer to those currently being followed. Various military specifications have been replaced.

(d) Brought up to date references to specifications, names, and addresses and deleted requirements no longer considered necessary.

VIIg—ATTACHMENT OF SELF-IGNITING WATERLIGHTS

Changes to 46 CFR 160.012–5, marking, 160.012–6, packing, and 160.012–7, procedure for approval, are proposed to correct a situation which marine inspection reports indicate is found with regularity; i.e., self-igniting waterlights are being found improperly secured and therefore such waterlights become nonoperative in time of need. The ring on the end that should be attached to the ring life buoy lanyard is being secured to the ship rail. In this condition, if in an emergency the ring life buoy is thrown overboard only the pull wire on the waterlight will go with it. If the waterlight is stowed correctly with the ring life buoy, then both the waterlight and the ring life buoy would be thrown overboard in an emergency and the pull wire on the waterlight would remain secure to the ship's rail. When the pull wire on the waterlight is removed, it leaves a hole in the waterlight for water to enter, thus activating the device.

Another problem has also been reported when the waterlight is properly secured to the ship's rail. In many cases the weight of the waterlight on the pull wire will cause the soldered joint holding the pull wire to the waterlight to fail so that the light will part from the wire, thus exposing the chemicals to the elements. The proposed amendments will require additional marking on the waterlight, instructions for securing the waterlight to the vessel and to the ring life buoy to be included in the shipping container, and the manufacturer to submit instructions for installation of waterlight with submittal of plans and specifications for approval.

VIIh—RELEASES, HYDRAULIC AND MANUAL, FOR INFLATABLE LIFERAFTS

Inflatable liferafts on merchant vessels are frequently installed with hydraulic releases which permit the raft containers to float free from a sinking vessel. Although the present regulations do not specify that a hydraulic

release is to form a part of the installation of the inflatable liferaft, various officers in charge, marine inspection, report that these devices are in extensive use with such rafts, and they have asked for guidance and an acceptance criteria. It is proposed to establish a specification for hydraulic and manual releases for inflatable liferafts, as a new subpart designated 160.062, consisting of 160.062–1 to 160.062–6, inclusive, in 46 CFR Part 160. Under this proposal the Coast Guard will approve hydraulic releases which will be marked with a Coast Guard approval number. It should be noted that installation requirements governing inspected vessels require that raft containers where authorized shall be capable of floating free from a sinking vessel.

ITEM VIII—MANNING OF UNINSPECTED VESSELS

VIIIa—ENGINEROOM MANNING FOR UNINSPECTED VESSELS OF 200 GROSS TONS AND OVER WITH FULLY AUTOMATED PILOTHOUSE CONTROL

Documented vessels of 200 gross tons and over, which navigate the high seas, are required by section 224a in title 46, U.S. Code, to have licensed officers. The provisions of implementing regulations in 46 CFR 157.30–10(c) now require that two licensed deck officers and two licensed engineers (one a chief engineer) shall be on board when such a vessel is engaged on a voyage of such length and character that the master (or chief engineer in the engineroom) manifestly and physically cannot be in charge of a watch continuously. Some uninspected vessels of 200 gross tons and over are now equipped with full pilothouse control of the propulsion machinery, thus eliminating the need for a person on watch in the engineroom and actually in charge of the running of the vessel's engine. It has been determined that such a vessel, therefore, should not be deemed to be in violation of section 224a in title 46, U.S. Code, if such a vessel had in her service only an appropriately licensed chief engineer. Amending of 46 CFR 157.30–10(c), regarding officers for uninspected vessels, is proposed to reflect this determination and to add a statement that uninspected vessels of 200 gross tons and over, which are equipped with full pilothouse control of the propulsion machinery and on which there is no need for a person on watch at all times in the engineroom, would not be in violation of 46 U.S.C. 224a if such vessel had in her service only an appropriately licensed chief engineer.

ITEM IX—RULES OF THE ROAD

IXa—MARINA DEL REY, CALIFORNIA, LINE OF DEMARCATION BETWEEN INLAND WATERS AND INTERNATIONAL WATERS

The Marina Del Rey Breakwater has been recently constructed and has created a small harbor, which is subject to the international rules under the existing regulations. Amending of 33 CFR 82.151, regarding the line of demarcation for Marina Del Rey, is proposed so that it will be subject to the inland rules by moving the line out to the detached breakwater and have it run from each end of the breakwater to shore, in the direction 060° true. The proposed changes have been recommended by the director of the Los Angeles County Department of Small Craft Harbors.

IXb—POSTING PILOT RULES ON GREAT LAKES VESSELS

It is presently required that a placard form, CG–807, containing a portion of the pilot rules for the Great Lakes, shall be kept posted on vessels navigating the Great Lakes, and one copy of such placard shall be posted in the pilothouse. Under the provisions of section 243 in title 33, U.S. Code, the Coast Guard has printed this placard form CG–807 and furnished two copies to each vessel. In addition, the Coast Guard publishes the pilot rules for the Great Lakes in a pamphlet form (CG–172, "Rules of the Road—Great Lakes"), which is distributed to all vessels. It has been determined that there is no specific requirement in law that the pilot rules required to be posted need to be in a placard form, although the regulations currently state that the posted pilot rules shall be form CG–807. Amending of 33 CFR 90.15, regarding posting of pilot rules, is proposed so that the pamphlet (CG–172) containing the pilot rules for the Great Lakes or two copies of the placard containing these rules (CG–807) shall be kept posted, wherever practicable, one copy of which shall be in the pilothouse. This proposal would permit compliance with the law and the elimination of the placard, when so desired by the ship operator.

IXc—LIGHTS FOR MOORED BARGES

The lighting of barges moored at a bank or dock was considered at the Merchant Marine Council public hearing held March 25, 1963 (item Xa, pp. 262–264, CG–249). After considering the proposals and comments received, revised requirements in 33 CFR 95.36, regarding lights for barges in the Mississippi River and its tributaries above Cairo Point, Ill., were established. It relaxed the lighting requirements for the owners and operators of such barges. The Commander, Second Coast Guard District and the officer in charge, marine inspection, at Chicago, have reviewed conditions as they exist within areas under their respective jurisdictions. It was found that the maintenance of lights on barges is very difficult, since the lights after installation are often stolen, or subjected to vandalism, and terminal operators resist assuming responsibility to maintain the lights in proper working order. The members of the Western Rivers Panel have also studied this matter and recommended that the requirements in 33 CFR 95.36 be extended to other geographical areas as set forth in this proposal. One of the circumstances favoring the proposed extension of 33 CFR 95.36 to other geographical areas is that since this regulation has been applicable above Cairo Point, Ill., the Coast Guard records of collisions or other difficulties do not show any material increase for this area.

Cancellation of 33 CFR 95.35, regarding lights for barges at bank or dock in the Mississippi River and its tributaries below Cairo Point, Ill.; the Ohio River and its tributaries; that part of the Atchafalaya River above its junction with the Plaquemine-Morgan City alternate waterway; and the Red River of the North, is proposed and at the same time amending of 33 CFR 95.36 is proposed so that this section will contain the requirements for lights for barges at bank or dock, and exempt barges moored on the Illinois Waterway above Joliet from having lights. The proposed removal of lights on barges moored on the Illinois Waterway above Joliet appears to offer no safety hazard because this part of the Illinois Waterway is well illuminated by adjacent industrial plants. The proposed change in lighting of barges on the Mississippi River south of Cairo and on the Ohio River would make the barges in those areas follow a system which has apparently been safe since 1963 on the upper Mississippi River. The proposed amendment to 33 CFR 80.16a(h), regarding lights for barges on certain inland waters on the Gulf Coast and the Gulf Intracoastal Waterway, will extend these relaxed lighting requirements for barges into these areas so that the requirements will remain consistent with those governing the western rivers.

IXd—NAVIGATION LIGHTS AND SHAPES, WHISTLES, FOGHORNS, AND FOG SOUND DEVICES

The present regulations describing navigation lights and shapes, whistles, foghorns, and fog sound devices (in 46 CFR 25.05–1 to 25.20–10, inclusive, for uninspected vessels, and in 46 CFR 96.17–1 to 96.25–10, inclusive, for cargo

and miscellaneous vessels) are considered to be misleading and create substantial conflicts with statutory requirements when applied to specific vessels. Basically, the problem is caused by the use of the terms "high seas" and "navigable waters of the United States" in attempting to reiterate certain equipment minimums as required by various rules of the road laws (international, inland, Great Lakes, western rivers, and Motorboat Act of 1940) rather than specifying the parameters used with the various rules of the road. This conflict becomes a particular problem for those vessels which navigate on waters under the international rules of the road or the inland rules of the road. The line of demarcation between these two sets of rules of the road is not based on whether particular waters are "high seas" or "navigable waters of the United States," but rather on the usages of navigation. Therefore, amending of the regulations in 46 CFR 25.05–1 to 25.20–10, inclusive, for uninspected vessels, and in 46 CFR 96.17–1 to 96.25–10, inclusive, for cargo and miscellaneous vessels, is proposed so that the requirements describing equipment minimums will be based solely on the applicable rules of the road governing the particular vessels involved, except for the relaxations for motorboats on waters governed by the U.S. rules of the road as set forth in the Motorboat Act of 1940. The proposals set forth a complete change in format, but without change in legitimate substance. In addition, the present unique relaxation permitting commercial fishing motorboats not over 65 feet in length to carry no more than a mouth-operated whistle has been canceled. Since power-operated whistles are available today, which function adequately even in such exposed operations as commercial fishing, it is believed to be in the best interests of marine safety to standardize the requirements for whistles.

ITEM X—TANK VESSELS

Xa—PERMISSIVE ELECTRIC BONDING OF TANK BARGES

Amending of 46 CFR 35.35–5, regarding electric bonding is proposed to extend the permissive authority for bonding, of tankships to tank barges. However, if electric bonding is made, it will be mandatory that such electrical connection be maintained until the entire transfer of cargo operation is completed.

Xb—LIQUEFIED FLAMMABLE GAS, DEFINITION

It is proposed to amend the definition of "liquefied flammable gas" as used in the tank vessel regulations, which is in 46 CFR 30.10–39. The proposed definition will delete the wording which states the flammable gas has been "compressed and liquefied for the purpose of transportation," so that this term will mean any flammable gas, having a Reid vapor pressure exceeding 40 pounds, which has been liquefied. In practice, the flammable gas may be liquefied by compression or by refrigeration or by a combination of compression and refrigeration. The resulting liquid is the same regardless of the method by which liquefied. Similarly, the purpose for which a flammable gas is liquefied is incidental and not necessarily for transportation. Therefore, such a limitation should not be included in the definition of a liquefied flammable gas.

Xc—LIQUEFIED FLAMMABLE GAS, GENERAL REVISION

Special requirements governing the tanks used in transportation of liquefied flammable gas were originally adopted in 1941 as 46 CFR Part 38. Since then, the modes for containment of liquefied flammable gas, which have been used and are being proposed today for transportation, have changed materially. Originally, in transportation the emphasis was on pressurized containment using little or no refrigeration. The last revision in 1964 of 46 CFR Part 38 speaks mainly to this type of carriage for liquefied flammable gas. Today, however, the modes for containment of liquefied flammable gas in transportation often utilize partial or total refrigeration to achieve liquefaction. For this reason the cargo containment systems are markedly different from the pressurized systems with little or no refrigeration. Revision of 46 CFR Part 38 is proposed to expand the present requirements to include regulations for the construction of the newer so-called nonpressure-vessel-type containment systems. These systems, because of the low temperature and pressure at which they operate, are of an extremely wide range of shapes, structures, and materials. In formulating this proposed revision of 46 CFR Part 38, the regulations have been written in as general terms as possible, consistent with safety, to avoid restricting future acceptable designs being added to the realm of past approved designs, which will continue to be permitted without major changes. The advances in technology, as well as increased operating experience gained since the last revision of 46 CFR Part 38, have contributed to the necessity to seek the current revision proposed. In a number of instances relaxations of present requirements are proposed, which are based on a better understanding of the problems affecting transportation of liquefied flammable gases.

The proposed revision of 46 CFR Part 38 is not intended to be retroactive in effect with respect to existing installations, as provided in 46 CFR 30.01–15. However, changes in operating requirements, inspections, shipboard tests, etc., depending on facts in particular cases, may be retroactive in effect. The major proposed changes include the following:

(a) The word "inflammable" is changed throughout to "flammable."

(b) Barge detail requirements, generally have been removed and transferred to 46 CFR Part 32 or references made to applicable requirements in Part 32.

(c) Special requirements for low-temperature metals will be those in the marine engineering regulations in 46 CFR Parts 50 to 61, inclusive (subchapter F). The service temperatures of the cargo tanks is defined for both pressure vessel and nonpressure vessel types.

(d) A section dealing with nonpressure vessel containment is added. This section establishes safety criteria equivalent to those existing for pressure vessel containment designs.

(e) The requirements for tank insulation have been revised. The proposals are considered to be more in accordance with the needs of current shipboard arrangements and practices. Generally, a relaxation of requirements has resulted.

(f) The cargo tank filling densities have been revised to allow an outage of at least 2 percent at the tank relief temperature for refrigerated as well as compressed containment systems.

(g) A cargo leak detection system is now required for some containment systems.

(h) The retest period for relief valves on pressure-vessel-type tanks (relief valves under specifications in 46 CFR Subpart 162.018), is reduced from 4 years to 2 years. This change is proposed in order to have uniformity in practice governing retests of relief valves for pressure vessels.

(i) The requirements have been so revised as to separate more clearly the hydrocarbon base flammable gases, whose primary hazard is one of flammability, from the requirements which apply to those liquefied gases having hazards in addition to flammability.

ITEM XI—MERCHANT MARINE OFFICERS AND MERCHANT SEAMEN

XIa—OFFICIAL TRANSCRIPTS OF SEA SERVICE SHOWING MILITARY SERVICE BY LICENSE APPLICANTS

Amending of 46 CFR 10.02–13(a), 10.15–9, and 187.05–5(a) is proposed to provide a uniform means for all appli-

cants for licenses who have military service to show acceptable documentary evidence of their sea service. This proposal will require each license applicant who has military service to provide an official transcript of his sea service whenever he applies for a license. The official transcript of sea service is desired as the acceptable documentary evidence of military sea duty, and may be obtained from the officer of personnel of his respective service. Under present practices, applicants have submitted all kinds of informal evidence, which had to be verified under time-consuming methods. This proposal will specify clearly what should be submitted by applicants, and it is intended to reduce the time needed in processing applications for licenses.

ITEM XII—USER CHARGES FOR SERVICES

XIIa—USER CHARGES FOR INSPECTION OF SMALL PASSENGER-CARRYING VESSELS AND LICENSING OF SMALL-BOAT OPERATORS

The provisions of subsection 390a(b) in title 46, U.S. Code (act of May 10, 1956), provide in part that "fees or charges for (1) any inspection made and (2) any certificate, license, or permit issued" pursuant to 46 U.S. Code, sections 390–390g, 404, and 526f, of the rules and regulations established hereunder may be levied by the U.S. Coast Guard. In compliance with administrative user charge policy, it is proposed to impose fees or charges for inspection of small passenger vessels, and the licensing of small-boat operators. Authority is contained in 46 U.S.C. 390a(b) and under certain provisions of title V of the Independent Offices Appropriation Act of 1952 (5 U.S.C. 140), which reads as follows:

"It is the sense of the Congress that any work, service, publication, report, document, benefit, privilege, authority, use, franchise, license, permit, certificate, registration, or similar thing of value or utility performed, furnished, provided, granted, prepared, or issued by any Federal agency (including wholly owned Government corporations as defined in the Government Corporation Control Act of 1945) to or for any person (including groups, associations, organizations, partnerships, corporations, or businesses), except those engaged in the transaction of official business of the Government shall be self-sustaining to the full extent possible, and the head of each Federal agency is authorized by regulation (which, in the case of agencies in the executive branch, shall be as uniform as practicable and subject to such policies as the President may prescribe) to prescribe therefor such fee, charge, or price, if any, as he shall determine, in case none exists, or redetermine, in case of an existing one, to be fair and equitable taking into consideration direct and indirect cost to the Government, value to the recipient, public policy or interest served, and other pertinent facts, and any amount so determined or redetermined shall be collected and paid into the Treasury as miscellaneous receipts: *Provided,* That nothing contained in this section shall repeal or modify existing statutes prohibiting the collection, fixing the amount, or directing the disposition of any fee, charge or price: *Provided further,* That nothing contained in this section shall repeal or modify existing statutes prescribing bases for calculation of any fee, charge or price, but this provision shall not restrict the redetermination or recalculation in accordance with the prescribed bases of the amount of any such fee, charge, or price."

The congressional policy in 5 U.S.C. 140, as interpreted by the Bureau of the Budget's circular A–25, encompasses the practices and procedures followed by the U.S. Coast Guard with respect to the inspection of small passenger vessels and the licensing of small-boat operators, as contemplated by 46 U.S.C. 390a(b). The decision has been made to proceed to impose fees or charges for those services where the law is permissive in this respect. It is recognized that in certain instances the imposition of fees based on actual costs would create serious financial burdens, and therefore, the basis of the proposed fees is a reasonable charge, rather than assessment of actual costs, which may vary considerably under the numerous conditions which occur throughout the United States.

It is proposed to add a new subpart 1.27, consisting of 1.27–1 to 1.27–30, inclusive, to subchapter A (General) of chapter I in title 33, CFR, which will provide for charging and collecting of fees for certain plan approvals, certificates of inspection, and licenses, as follows:

(a) For plan approval, where required, $50, except for passenger-carrying sail vessels of 100 or more and 700 gross tons or less when it is $75.

(b) For certificates of inspection (original or renewal) for domestic vessels $50, and for foreign passenger-carrying vessels $30.

(c) For a motorboat operator's license (vessel carrying six or less passengers for hire), an operator's license for passenger-carrying vessel (inland), or an ocean operator's license for passenger-carrying vessel, $10 for an original license, and $5 for a renewal, duplicate, or change by endorsement thereon.

XIIb—FEE FOR PROCESSING APPLICATION TO HOLD A REGATTA OR MARINE PARADE

The provisions of 33 CFR 100.15 require an individual or organization planning to hold a regatta or marine parade, which by its nature, circumstance, or location will introduce extra or unusual hazards to the safety of life on navigable waters of the United States, to submit an application to the Coast Guard District Commander having cognizance of the area where it is intended to hold such event. The District Commander is required to review the application to determine whether the event may be held in the proposed location with safety of life.

Section 140 in title 5, U.S. Code, authorizes the head of each Federal Agency to prescribe by regulation such fee, charge, or price which is to be fair and equitable for the reimbursement of direct and indirect costs to the Government for services and benefits furnished to or for any person. The congressional policy in this law, as interpreted by the Bureau of Budget's circular A–25, includes the processing of applications to hold a regatta or marine parade and requires the imposition of fees for those services required or furnished by the U.S. Coast Guard under authority in section 454 in title 46, U.S. Code, to promote safety of life on navigable waters during a regatta or marine parade. The basis for the proposed fee is a reasonable charge, rather than assessment of actual costs, which often vary under the conditions which occur throughout the United States.

The necessity for having an approved application to hold a regatta or marine parade is not changed by the charging of the fees proposed. Without such approval the responsibility for compliance with rules of the road applies and failure to comply therewith and interfering with other users of the water may lead to charges for reckless and negligent operation.

It is proposed to add a new regulation designated 33 CFR 100.17, which will state the fee for processing an application to hold a regatta or marine parade is $10, which shall be paid by postal money order or check and submitted with the application. It is also proposed to amend 33 CFR 100.20, regarding action on application for event assigned to State regulation by Coast Guard-State agreement, to provide for the return of the fee directly to the applicant when an application is not processed by the Coast Guard, but is forwarded to the State authority having cognizance of the event under the Coast Guard-State agreement.

nautical queries

DECK

Q. A vessel steaming at 15 knots on a course 48°, observes a lighthouse to bear 70°, at 2:20 p.m. At 3:08 p.m. the lighthouse bore 98°. Required: The distance off when abeam.

A.

3:08	15 knots
2:20	.8
48 min.	12.0 Dist. run

Course 48°
70°

22° Diff. between course and 1st. bearing

Course 48°
98°

50° Diff. between course and 2nd. bearing

Factor:
0.61
12

122
61

7.32 miles, dist. off when abeam

Answer: Distance off when abeam, 7.32 miles.

Q. At 10:30 a.m. a lighthouse bore 26½° on the bow. At 10:52 a.m. it bore 45° on the bow. Vessel making 20 knots, no current. How far off will the light be when abeam and at what time?

A. Relative bearings 26½° and 45° 22 min. at the rate of 20 knots is 7.3 miles run and distance off abeam. 10:52 plus 22 min. run from 45° equals 11:14 A.M. due abeam.

Answer: 7.3 miles off abeam.
11:14 a.m.

Q. A radio "auto-alarm" is used only:

(a) When the radio operator is on watch.
(b) In port.
(c) When distress traffic is anticipated.
(d) When no radio operator is on watch.
(e) When the ship must send an S.O.S.

A. (d) When no radio operator is on watch.

Q. What is the principle underlying most chemical methods of scale prevention? What are the chemicals most commonly added to the water for this purpose?

A. The principle underlying most methods of scale prevention is the removal of calcium and magnesium ions from the water by precipitation. Since all salts of sodium are highly soluble, sodium carbonate and the phosphates of sodium are the chemicals most commonly added to the water for this purpose.

Q. A Performeter or Echo Box is used to:

(a) Reduce sea return.
(b) Check and tune the set.
(c) Assure true directional stability.
(d) Scan sectors.
(e) Indicate heading.

A. (b) Check and tune the set.

ENGINE

Q. It is considered good practice to make a complete inspection of a turbine at regular intervals. Explain fully each step taken, how adjustments are made at such times.

A. To make a complete inspection of a turbine engine it is necessary to lift the upper part of the casing clear of the rotor, and before starting to do this, all pipe connections or other matter which would interfere with the vertical lift necessary should be removed; and the guide bolts inserted at the four corners of the casing, these being used to guide the cover and to insure an equal raise at all parts at the same time, to avoid damage to blading; the nuts are then removed from the bolts, holding the two parts together, jacking screws are started to break the joint and then the cover may be hoisted off and landed at any safe place. The distances between the stationary and rotating blades are obtained by distance gauges, or feelers, and these measurements should be obtained while the machine is hot. The rotor can then be turned one complete revolution by means of the jacking gear, and a close watch for loose or broken blades maintained as well as noting any indications of friction as shown by bright surfaces where they have been in contact as they revolve. The wear down of the main bearings at either end of the rotor may be judged by adjusting the "bridge gauges" across the bearings, and feelers used to show the clearance between the same and the top of the shaft. Each turbine installation should have the clearance plainly marked on the name plate and any adjustments made must correspond with this data. Labyrinth packing rings are also removed, cleaned and made ready for reassembly or such renewals as may be necessary, and the Kingsbury thrust opened up, the oil grooves of same cleaned or re-cut if necessary. Where there is any doubt regarding the condition of the stationary blading, the rotor has to be lifted from the bearings and landed in special supports, as the blading is not designed to carry the weight of the rotor shaft. With the rotor removed, the stationary blading in the lower half of the casing are to be tested for slack, loose or broken segments. The lower part of the bearings can then be lifted out, the shims cleaned off and, if desired to obtain the actual clearances at the bottom, shims may be removed, the rotor replaced in its bearings and rotated to listen for a slight rubbing contact distinguished by the sense of hearing, and bridge gauge measurements from the top of the shaft noted for this contact point. Shims may then be replaced and additional thickness added to compensate for the wear down found. At this time, the reduction gearing should be removed, carefully examined for small cracks or broken teeth of these gears, the bearings supporting should be cleaned and their oil grooves deepened where required before reassembly. The "Cover of the Casing" should now be turned upside down to examine the stationary blading in the upper half of the chamber, its diaphragms, etc., as was done with the lower section. Reassembly is made in the reverse order of dismantling and if the exact rubbing point is desired after the top is bolted down, the pad under the main bearing can be removed and wedged up, or additional shims inserted until the rubbing sound is heard when the rotor is turned. The turbine rotor is assumed to be kept in an exact central position, and each and every time the machine is dismantled and its bearings worked on new surfaces will have to be formed from operating wear, or, in other words, frequent dismantling creates excessive wear of moving parts.

AUTOMATION

(*Continued from page 27*)

on the foundations of panels and cabinets, but only time will tell if this is substantial.

One other problem worthy of discussion is that of the winter layup season. During a 4- to 5-month period the equipment stands idle, dust collects, corrosion occurs, and the reliability of the equipment is put in question. The solution to this problem is a coordinated Coast Guard and Industry checkout-and-test procedure prior to getting underway in the spring.

After the first year of operation, considerable upgrading of both designs was accomplished to increase system reliability. The bugaboos have been virtually eliminated. Last year five additional vessels were automated bringing the total to seven. Plans are in the making for several more this year. One vessel will probably have the latest idea in automated boilers. It will be equipped with burners and atomizers that will not trip out during a no-load condition. This is achieved by incorporating a steam dump valve to the condenser. This system has already been tried on ocean vessels, and it appears that this is the best answer if on-off burner control is not desired. A study of such a system on a particular vessel operating in a no-load condition revealed that the cost in fuel economy would not be substantially affected.

Now that success in boiler automation has been demonstrated, the question arises as to what the ability is of these systems to perform their required functions over an indefinite period of time. In other words, "What is the designed mission time"? The answer to this question lies in the realm of statistics.

In general it appears that the responsibility of much of the success of automation can be directly attributed to the high caliber of personnel operating these vessels. It looks like another job well done, thanks to the coordinated effort of all hands.

LT ROPIAK, a 1959 graduate of the U.S. Coast Guard Academy, served 3½ years on the Cutter MACKINAC *in various deck and engineering billets, and is presently assigned to the Marine Inspection Office in Cleveland, Ohio. He has been schooled in instrumentation, automation, nondestructive testing, damage control, supervisory welding, hazardous commodities, and chemical engineering. He is an affiliate member of the American Chemical Society. His present duties include that of being resident inspector, Babcock and Wilcox, Barberton, Ohio.* ⚓

AMENDMENTS TO REGULATIONS

TITLE 33 CHANGES

INLAND WATERS BOUNDARY CHANGED

The description of the boundary line between inland waters and the high seas at Christiansted Harbor, Island of St. Croix, V.I., in 33 CFR 82.240 is amended because the reference points used have been changed.

Sections 82.240, 85.01–1, 85.01–5, and 85.05–1 are affected by this amendment which appeared in the Federal Register of December 8, 1965.

NEW YORK AND NEW LONDON MIO's CONSOLIDATED

The New London Marine Inspection Office, New London, Conn., has been disestablished as a manned district unit and reestablished as a subunit of the New York Marine Inspection Office, New York, N.Y. All the marine inspection activities previously assigned to the officer in charge, marine inspection, at New London will be under the cognizance of the officer in charge, marine inspection, New York, N.Y. The officer in charge, marine inspection, New York, will perform the assigned functions and will utilize a subunit known as "Marine Inspection Office, U.S. Coast Guard" located at New London, Conn. The correspondence and reports formerly submitted to the officer in charge, marine inspection, New London, Conn., should be forwarded to the Officer in Charge, Marine Inspection, U.S. Coast Guard, 720 Customhouse, New York, N.Y., 10004.

The amendment to 33 CFR 3.15–10 adds to the area of the New York Marine Inspection Zone the area formerly assigned to the officer in charge, marine inspection, in the New London Marine Inspection Zone. The cancellation of 33 CFR 3.15–20 regarding the New London Marine Inspection Zone was made to reflect the transfer of functions to the officer in charge, marine inspection in New York, N.Y. The purpose of these changes is to bring these descriptions up to date.

This change appeared in the Federal Register of December 22, 1965.

TITLE 46 CHANGES

DANGEROUS CARGO REGULATIONS AMENDED

The provisions of R.S. 4472, as amended (46 U.S.C. 170), require that the land and water regulations governing the transportation of dangerous articles or substances shall be as nearly parallel as practical. The Interstate Commerce Commission in change order No. 67 has made changes in the ICC regulations with respect to definitions, descriptive names, classifications, specifications of containers, packing, marking, labeling, and certification for certain dangerous cargoes, which are now in effect for land transportation. Various amendments to the dangerous cargo regulations in 46 CFR Part 146 have been listed in the Federal Register of December 9, 1965 in order that these regulations governing water transportation of certain dangerous cargoes will be as nearly parallel as practicable with regulations of the Interstate Commerce Commission which govern the land transportation of the same commodities.

VESSEL INSPECTION REGULATIONS UPDATED, REPUBLISHED

The vessel inspection regulations in 46 CFR Parts 1 through 145 have been republished in their entirety in order to permit an editing of material for the purpose of obtaining uniformity in spelling of words; correction of names, addresses, and cross-references; and updating of procedures. This republication of regulations does not alter or change the requirements previously published in the Federal Register. This publication will permit the use of a single source for these regulations rather than numerous sources to show the amendments and changes made since 1938.

Federal Register containing this republication is dated December 30, 1965, is in 3 sections and may be purchased from the Superintendent of Documents.

REGULATIONS TO BE PUBLISHED IN PAPERBACK EDITION

On or about March 1, 1966, regulations found in 46 CFR Parts 1 to 145 will be available for the first time in a paperback edition. This will mean that all title 46 Coast Guard regulations can then be obtained in this lower cost version from the Superintendent of Documents.

CIRCULARS

VESSEL ALTERATION AND MODIFICATION RULES EXPLAINED IN NVIC 12–65

From time to time there are proposals to make major alterations to or conversions of all or parts of existing vessels. As contrasted with ordinary service repairs, these proposals may involve replacement or modification of considerable portions of the ship. Jumboizings, extensive renewals, lengthenings, repowerings and conversions for change in service fall into this category. In many cases only a relatively small portion of the completed ship can be identified as existing at the time the work was begun.

As safety standards are revised upward, they are seldom made retroactive, partly on the assumption that with the passage of time existing vessels will be retired from service and only those built to the newer and higher standard will continue to ply the seas under the American flag. It would also be costly and impractical to require a vessel to satisfy each change in regulations. However, when major alteration programs are carried out, there is a definite intention of extending the service life of existing vessels, and the vessel is necessarily withdrawn from service to accomplish the work. When such substantial changes are contemplated, it is appropriate that careful consideration be given to certain safety details with a view to bringing the vessel into closer compliance with current standards. Each vessel will be considered individually with regard to the extent to which it departs from present day requirements and to the extent it is reasonable and practicable to accomplish such improvements.

When an existing cargo or tank vessel is to be modernized, jumboized, lengthened or converted to other service, the feasibility of the following improvements in construction standards which contribute materially to safety shall be considered:

(a) Provision of emergency source of power and emergency lighting.

(b) Separation of required fire pumps and their sources of power.

(c) Removal of steam smothering systems and replacement with presently acceptable fixed firefighting systems.

(d) Installation of self-closing fire doors in stairways passing through accommodation spaces.

(e) Modification or renewal of the lifesaving equipment as necessitated by proposed changes in manning, service or arrangement, with particular attention given to winches and wire rope falls.

(f) In pump rooms of older tank vessels, segregation of electric motors and pumps to comply with present practice.

(g) Installation of up-to-date CO_2 system in machinery space.

Full consultation with appropriate OCMIs, technical branches, and/or the Commandant (MMT) by interested shipowners, designers, and shipyards is considered highly desirable before the work specifications are finalized.

NVIC 12–65 is available at the local marine inspection office or may be obtained by writing Commandant (CHS) U.S. Coast Guard, Washington, D.C., 20226.

NVIC 13–65

PLAN REVIEW AND INSPECTION OF FOREIGN VESSELS CARRYING BULK UNUSUAL-RISK LIQUIDS

Procedures for plan review and inspection of foreign vessels carrying bulk liquid cargoes which create a potential unusual risk to life and property in U.S. ports by virtue of their design, their operation, or the cargoes they carry have been announced in Navigation and Vessel Inspection Circular 13–65.

Under the provisions of 46 CFR 2.01–13, foreign vessels, involving novel features of design or construction upon which the Convention for the Safety of Life at Sea is silent, or which involve potential unusual operating risks, are subject to inspection to the extent necessary to safeguard life and property in U.S. ports.

HYDRAULIC CAST IRON VALVES

Manufacturer	Type	Identity	Maximum allowable pressure (p.s.i.)
Rivett Inc., 145 Newton St., Boston, Mass., 02135.	Hydraulic Pressure Control Valve, With and Without Internal Check.	8800–03	2,000
Do	do	8800–06	2,000
Do	do	8800–10	2,000
Do	Hydraulic Pressure Control Valve	5000–1"	2,000
The Oilgear Co. 1560 West Pierce St. Milwaukee 4, Wis.	1¼" 6-way changeover gear	504242	3,000
Do	½" 4-way directional control, mech. or hydraulic operated.	V**F*-404	3,000
Do	¾" 4-way directional control, mech. or hydraulic operated.	V**F*-406	3,000
Do	1" 4-way directional control, mech. or hydraulic operated.	V**F*-408	3,000
Do	1¼" 4-way directional control, mech. or hydraulic operated.	V**F*-410	3,000
Do	1½" 4-way directional control, mech. or hydraulic operated.	V**F*-412	3,000
Do	½" 4-way directional control, solenoid operated.	KG*F*-404	3,000
Do	¾" 4-way directional control, solenoid operated.	KG*F*-406	3,000
Do	1" 4-way directional control, solenoid operated.	KG*F*-408	3,000
Do	1¼" 4-way directional control, solenoid operated.	KG*F*-410	3,000
Do	1½" 4-way directional control, solenoid operated.	KG*F*-412	3,000
Rivett Inc., 20 Riverview Rd., Boston, Mass.	4-way, ⅜, ¾, 1½, 1¼	51**	3,000
Fluid Power Division, Aurora Corp. of Ill., 8810 Harvard Ave., Cleveland, Ohio, 44105.	3-way	250555	1,500
Do	do	250574	300
Do	4-way	250550HP	1,500
Do	do	250550LP	150
Do	do	250563	2,000
Do	do	250562	300

The control and movement of such vessels in U.S. waters are also subject to the jurisdiction of the U.S. Coast Guard Captain of the Port in accordance with 33 CFR Part 6.

A potential unusual risk may exist because of the design of the vessel, the cargoes carried, the method of handling the cargo, or any unconventional shipboard systems (e.g., propulsion, navigation, etc.). A "design" is not considered restricted to construction details, but is considered to include the overall concept of the carriage of the cargo. For example, a vessel designed for the low temperature carriage of cargoes creates an unusual risk because the uncontrolled release of cargo via brittle fracture of the surrounding structure can be hazardous. Also, a vessel of conventional design could pose a hazard when carrying a product not originally considered when the vessel was built. Additionally, a new or unusual handling technique for a common product could create a hazard.

Types of cargoes which are considered to involve potential unusual operating risk include:

1. Highly reactive or unstable commodities.
2. Commodities having severe and unusual fire hazards.
3. Commodities having toxic properties.
4. Commodities requiring refrigeration for their safe containment.
5. Commodities which can cause brittle fracture of normal ship structural materials by reason of their being carried at low temperature or because of their low boiling point at atmospheric pressure (unless uncontrolled release of the cargo is not a major hazard).

Cargoes which have been determined to meet these criteria and to require plan review and inspection in accordance with this circular are listed in NVIC 13–65. Cargoes considered *not* to involve potential unusual operating risks for conventional transportation are also listed. Cargoes not appearing in either list require individual determinations by the Commandant.

The following are examples of the type of features in which the Coast Guard is interested from the point of view of safety of life and property in U.S. ports:

1. Design and arrangement of cargo tanks and cargo piping and vent systems.
2. Testing of materials to insure suitability for the temperatures and pressures involved.
3. Qualification of welders and welding procedures.
4. Nondestructive testing of cargo tanks and piping.
5. Arrangement and adequacy of installed fire extinguishing systems and equipment.
6. Safety devices and related systems which check the cargo and the surrounding spaces to give warning of leaks or other derangements which could result in a casualty.
7. Compatibility of one cargo with another and with the materials involved.

Owners, masters, or agents of foreign vessels which desire to enter U.S. ports and are potential unusual risks shall submit to the Commandant plans and specifications for the cargo handling and containment facilities, the arrangement of the vessel, and the hull structure in way of the cargo tanks. Plans showing details of accommodation, navigation and propulsion spaces will not normally be required unless the design or concept is unconventional and creates unusual operating risks. For example, where it is proposed to use cargo boiloff as propulsion fuel, all details of the fuel system and spaces involved shall be submitted.

The Coast Guard does not conduct inspections in foreign building yards. In lieu of this, for vessels under construction, inspection and witnessing by a recognized classification society of requirements made by the Coast Guard during plan review will be accepted. When these requirements made during plan review entail the submission of reports of inspection or test, they shall be certified by the classification society. The owner shall make the necessary arrangements with the classification society for the inspections and submission of the reports.

Upon receipt of a preliminary Letter of Compliance issued by the Commandant, the vessel may enter U.S. waters to initially load or off-load the specified cargoes. The owner shall notify the Commandant of the date and place of the vessel's initial arrival at least 1 week in advance. This notice is in addition to the requirements of 33 CFR 124.10 for advance notice of vessel's time of arrival.

Vessels already in service may be issued Letters of Compliance if adequate structural information and data can be submitted for Coast Guard review. Plans and specifications shall be submitted to the Commandant. Existing reports of inspections and tests made and certified by a recognized classification society may be submitted in lieu of the special reports required for vessels under construction. All material must be submitted sufficiently prior to notification of the Commandant of vessel arrival date and place to permit proper Coast Guard review.

Plans and specifications will be reviewed using the same criteria used to evaluate the safety of a similar design for U.S. registry. For vessels already in service inspection and test results will be reviewed for sufficiency as well as quality. Normally, when foreign equipment and material standards provide the same degree of safety as comparable U.S. standards, they will be accepted in lieu of requiring approved items of equipment and materials from manufacturers.

For new construction vessels, a preliminary Letter of Compliance will be issued by the Commandant to the shipyard for delivery to the vessel after plans, specifications, and inspection and test reports have been found satisfactory and evidence has been received that the vessel will be accepted by a recognized classification society. Upon arrival at the first port of entry in the United States, a representative of the cognizant Captain of the Port and of the Officer in Charge, Marine Inspection, with a representative from the Commandant (MMT), will board and inspect the vessel. Inspection will consist of a physical inspection of the arrangement, cargo tanks and piping and such items as the inspector considers necessary to determine to the extent possible that the arrangement, etc., is in accordance with the plans that have been approved. Condition of vessel, location and adequacy of fire extinguishing system, safety devices and other similar equipment will be checked. A report of this inspection shall be submitted to the Commandant (M) by the Officer in Charge, Marine Inspection.

If the vessel is considered satisfactory as regards those areas of interest, a Letter of Compliance will be prepared by the Commandant (M) and addressed to the owner for delivery to the vessel, with copies for the cognizant Officer in Charge, Marine Inspection and Captain of the Port. The letter will indicate that the special cargo carrying and handling features of the vessel have been evaluated and found satisfactory for the cargoes specified. For subsequent vessel arrivals, the Captain of the Port, in conjunction with the Officer in Charge, Marine Inspection, shall make such inspection as he considers necessary to insure that the vessel has been maintained in a safe condition.

NVIC 13–65 may be obtained at the local marine inspection office or by writing Commandant (CHS), U.S. Coast Guard, Washington, D.C. 20226.

Executive Order 11249

AMENDING REGULATIONS RELATING TO THE SAFEGUARDING OF VESSELS, HARBORS, PORTS, AND WATERFRONT FACILITIES OF THE UNITED STATES

By virtue of the authority vested in me by the Act of August 9, 1950, 64 Stat. 427, which amended section 1 of title II of the Act of June 15, 1917, 40 Stat. 220 (50 U.S.C. 191), and as President of the United States, I hereby prescribe the following amendments of the regulations prescribed by Executive Order No. 10173 of October 18, 1950, as amended by Executive Order No. 10277 of August 1, 1951, and Executive Order No. 10352 of May 19, 1952, which regulations constitute Part 6, Subchapter A, Chapter I, Title 33 of the Code of Federal Regulations:

1. Section 6.01–3 is amended to read as follows:

§ 6.01–3 *Captain of the Port.* "Captain of the Port" as used in this part, means the officer of the Coast Guard, under the command of a District Commander, so designated by the Commandant for the purpose of giving immediate direction to Coast Guard law enforcement activities within his assigned area. In addition, the District Commander shall be Captain of the Port with respect to remaining areas in his District not assigned to officers designated by the Commandant as Captain of the Port.

2. Section 6.01–4 is amended to read as follows:

§ 6.01–4 *Waterfront facility.* "Waterfront facility" as used in this part, means all piers, wharves, docks, and similar structures to which vessels may be secured; areas of land, water, or land and water under and in immediate proximity to them; buildings on such structures or contiguous to them and equipment and materials on such structures or in such buildings.

3. A new section 6.01–5 is added to read as follows:

§ 6.01–5 *Security zone.* "Security zone" as used in this part, means all areas of land, water, or land and water, which are so designated by the Captain of the Port for such time as he deems necessary to prevent damage or injury to any vessel or waterfront facility, to safeguard ports, harbors, territories, or waters of the United States or to secure the observance of the rights and obligations of the United States.

4. Section 6.04–5 is amended to read as follows:

§ 6.04–5 *Preventing access of persons, articles or things to vessels, or waterfront facilities.* The Captain of the Port may prevent any person, article, or thing from boarding or being taken or placed on board any vessel or entering or being taken into or upon or placed in or upon any waterfront facility whenever it appears to him that such action is necessary in order to secure such vessel from damage or injury or to prevent damage or injury to any vessel, or waterfront facility or waters of the United States, or to secure the observance of rights and obligations of the United States.

5. A new section 6.04–6 is added to read as follows:

§ 6.04–6 *Establishing security zones; prohibitions with respect thereto.* The Captain of a Port may establish security zones subject to the terms and conditions specified in § 6.01–5. No person or vessel shall enter a security zone without the permission of the Captain of the Port. No person shall board or take or place any article or thing on board any vessel in a security zone without the permission of the Captain of the Port. No person shall take or place any article or thing upon any waterfront facility in any such zone without such permission.

6. Section 6.04–7 is amended to read as follows:

§ 6.04–7 *Visitation, search, and removal.* The Captain of the Port may cause to be inspected and searched at any time any vessel, waterfront facility, or security zone, or any person, article, or thing thereon or therein, within the jurisdiction of the United States, may place guards upon any such vessel, waterfront facility, or security zone and may remove therefrom any and all persons, articles, or things not specifically authorized by him to go or remain thereon or therein.

LYNDON B. JOHNSON

THE WHITE HOUSE,

October 10, 1965.

FIXED FIRE-EXTINGUISHING SYSTEM GUIDE ISSUED

A guide to enlarge upon the requirements for the design, installation, and testing of fixed fire-extinguishing equipment aboard U.S.-flag merchant vessels has been issued as Navigation Vessel Inspection Circular 14–65. This circular is not intended to modify or in any way change the applicable regulations, but supplements and clarifies them.

The NVIC 14–65 guide is divided into six parts, corresponding to the major types of fixed fire-extinguishing systems: (1) firemain, (2) carbon dioxide, (3) mechanical foam, (4) water spray, (5) manual sprinkling, and (6) bromotrifluoromethane. Each portion contains: (*a*) a discussion of the basic concepts of the system and explanation of the regulations, (*b*) a checklist guide for use in system design and review, and (*c*) notes on initial and subsequent tests and inspections of the installation. The part describing each system is contained as a separate portion of the guide, so that the guide may be used as a single booklet form or so that individual portions may be detached and used separately. It is available at the local marine inspection office or may be obtained by writing Commandant (CHS), U.S. Coast Guard, Washington, D.C., 20226.

AFFIDAVITS

The following affidavits were accepted during the period from October 15, 1965, to December 15, 1965:

The Johnston & Jennings Co., OCECO Division, 4700 West Division St., Chicago 51, Ill., VALVES & FITTINGS.

Skinner Electric Valve Di... Skinner Precision Industries, ... New Britain, Conn., 06050, VAL...

The Babcock and Wilcox Co., ... Box 230, Beaver Falls, Pa., ... FITTINGS & FLANGES.[2]

Tube Line Manufacturing C... 56–61 55th Ave., Maspeth, N.Y., ... FITTINGS & FLANGES.

Republic Steel Corp., 25 Pr... Ave. NW., Cleveland 1, Ohio.[3]

The Clark-Reliance Corp., ... Industrial Parkway, Cleveland, ... 44135, VALVES & FITTINGS.

The Youngstown Welding & E... neering Co., 3700 Oakwood ... Youngstown, Ohio, 44509, PIP... TUBING.[4]

Bridesburg Foundry Co., Fr... Grape Sts., Fullerton, Pa., CA... INGS.[5]

Republic Steel Corp., Plastic P... ucts Div., Bond and Adams St., ... Box 70, Elyria, Ohio, 44035, P... AND TUBING.[6]

Mono Valve Corp., 1220 Cal... P.O. Box 88047, Houston, Te... VALVES.

Hewitt-Robins, Inc., 240 Kens... ton Ave., Buffalo, N.Y., 14240, FI... TINGS.[7]

Chase Brass & Copper Co., ... Waterbury Mill Div., Waterb... Conn., 06720, PIPE AND TUBING.

Longhorn Machine Works, ... Navigation Blvd., P.O. Box 9... Houston, Tex., 77011, FITTINGS.

Yarway Corp., Chestnut Hill, Phi... delphia, Pa., 19118, VALVES A... FITTINGS.[8]

W. C. Norris Div., Dover Corp., P.O. Box 1739, Tulsa, Okla., VALVES.[9]

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[1] V53 and V53A series only.

[2] Omitted from previous listing in CG–190.

[3] Currently listed in CG–190. Change footnote to read: Affidavit includes welded pipe and tubing made to ASTM A–312. When used for class I application, the weld shall be 100 percent radiographed.

[4] Acceptance covers welded 90/10 copper nickel tubing only.

[5] Copper alloy.

[6] Affidavit covers PVC piping.

[7] Rubber expansion joints only, limited to class II piping and a maximum temperature of 180° F., maximum pressure of 150 psi.

[8] Name changed from Yarnall-Waring Co. to Yarway Corp. with change of address noted.

[9] Previously omitted from listing in CG–190.

NOTE: The following manufacturers will be deleted from the currently approved affidavit section of the revised edition CG–190.

Clark Manufacturing Co., 1830 East 38th St., Cleveland, Ohio.

Reliance Gauge Column Co., 5902 Carnegie Ave., Cleveland, Ohio.

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 Sunday, Monday, and days following 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 may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402. Subscription rate is $1.50 per month or $15 per year, payable in advance. Individual copies may be purchased so long as they are available. The charge for individual copies of the Federal Register varies in proportion to the size of the issue but will be 15 cents unless otherwise noted in the table of changes below. Regulations for Dangerous Cargoes, 46 CFR 146 and 147 (Subchapter N), dated January 1, 1965 are now available from the Superintendent of Documents, price $2.75.

CG No.	TITLE OF PUBLICATION
101	Specimen Examination for Merchant Marine Deck Officers (7–1–63).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (8–1–62).
115	Marine Engineering Regulations and Material Specifications (9–1–64). F.R. 2–13–65, 8–18–65, 9–8–65.
123	Rules and Regulations for Tank Vessels (4–1–64). F.R. 5–16–64, 6–5–64, 3–9–65, 9–8–65.
129	Proceedings of the Merchant Marine Council (Monthly).
169	Rules of the Road—International—Inland (9–1–65). F.R. 12–8–65, 12–22–65.
172	Rules of the Road—Great Lakes (6–1–62). F.R. 8–31–62, 5–11–63, 5–23–63, 5–29–63, 10–2–63, 10–15–63, 4–30–64, 11–5–64, 5–8–65, 7–3–65, 12–22–65.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (3–2–64).
175	Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3–1–65).
176	Load Line Regulations (7–1–63). F.R. 4–14–64, 10–27–64, 9–8–65.
182	Specimen Examinations for Merchant Marine Engineer Licenses (7–1–63).
184	Rules of the Road—Western Rivers (6–1–62). F.R. 1–18–63, 5–23–63, 5–29–63, 9–25–63, 10–2–63, 10–15–63, 11–5–64, 5–8–65, 7–3–65, 12–8–65, 12–22–65.
190	Equipment lists (8–3–64). F.R. 10–21–64, 10–27–64, 3–2–65, 3–26–65, 4–24–65, 5–26–65, 7–10–65, 8–4–65, 10–22–65, 10–27–65.
191	Rules and Regulations for Licensing and Certificating of Merchant Marine Personnel (2–1–65). F.R. 2–13–65, 8–21–65.
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (10–1–63). F.R. 11–5–64, 5–18–65.
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels (4–1–57).
227	Laws Governing Marine Inspection (3–1–65).
239	Security of Vessels and Waterfront Facilities (7–1–64). F.R. 6–3–65, 7–10–65, 10–9–65, 10–13–65.
249	Merchant Marine Council Public Hearing Agenda (Annually).
256	Rules and Regulations for Passenger Vessels (4–1–64). F.R. 6–5–64, 8–21–65, 9–8–65.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (9–1–64). F.R. 2–13–65, 3–9–65, 8–21–65, 9–8–65.
258	Rules and Regulations for Uninspected Vessels (1–2–64). F.R. 6–5–64, 6–6–64, 9–1–64, 5–12–65, 8–18–65, 9–8–65.
259	Electrical Engineering Regulations (7–1–64). F.R. 2–13–65, 9–8–65.
266	Rules and Regulations for Bulk Grain Cargoes (7–1–64).
268	Rules and Regulations for Manning of Vessels (2–1–63). F.R. 2–13–65, 8–21–65.
269	Rules and Regulations for Nautical Schools (5–1–63). F.R. 10–2–63, 6–5–64, 8-21–65, 9–8–65.
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935 (11–19–52). F.R. 12–5–53, 12–28–55, 6–20–59, 3–17–60, 9–8–65.
293	Miscellaneous Electrical Equipment List (6–1–64).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (10–1–59). F.R. 10–25–60, 11–3–61, 4–10–62, 4–24–63, 10–27–64.
323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (2–3–64). F.R. 6–5–64, 6–6–64, 8–18–65, 8–21–65, 9–8–65.
329	Fire Fighting Manual for Tank Vessels (4–1–58).

CHANGES PUBLISHED DURING DECEMBER 1965

The following have been modified by Federal Registers:
CG–169 and CG–184 Federal Register December 8, 1965.
CG–169, CG–172 and CG–184 Federal Register December 22, 1965.

U.S. GOVERNMENT PRINTING OFFICE:1966