

**PROCEEDINGS OF THE  
MERCHANT MARINE COUNCIL  
UNITED STATES COAST GUARD**



Vol. 2

October 1945

No. 10



# MERCHANT MARINE COUNCIL

Published monthly at Coast Guard Headquarters,  
under the auspices of the Merchant Marine Council,  
in the interest of safety at sea

## The Merchant Marine Council of the United States Coast Guard

Admiral R. R. WAESCHE, U. S. C. G.  
Commandant of the Coast Guard

Rear Admiral HARVEY F. JOHNSON,  
U. S. C. G., *Chairman*  
Engineer-in-Chief, U. S. C. G.

Rear Admiral F. J. GORMAN,  
U. S. C. G., *Member*  
Chief, Planning & Control Staff,  
U. S. C. G.

Rear Admiral L. SPENCER  
U. S. C. G., *Deputy Chairman*  
Assistant Chief Operations Officer,  
U. S. C. G.

Commodore NORMAN B. HALL,  
U. S. C. G., *Member*  
Chief, Merchant Marine Inspection  
Division, U. S. C. G.

Commodore HALERT C. SHEPHEARD,  
U. S. C. G. R., *Vice Chairman*  
Special Assistant to the Com-  
mandant

Captain HENRY T. JEWELL,  
U. S. C. G., *Member*  
Chief, Merchant Marine Personnel  
Division, U. S. C. G.

Captain ROBERT T. MERRILL,  
U. S. C. G. R., *Member*  
Special Assistant to the Assistant  
Commandant

Captain ROBERT A. SMYTH,  
U. S. C. G. R., *Member*  
Chief, Merchant Marine Technical  
Division, U. S. C. G.

Captain KENNETH S. HARRISON,  
U. S. C. G. R., *Legal Adviser*  
Chief Counsel, U. S. C. G.

Lieutenant Commander THOMAS M.  
TORREY,  
U. S. C. G. R., *Secretary*

## CONTENTS

	Page
Council Activities.....	144
Rescission of Emergency Regulations.....	145
Simplified Mariners Documents.....	146
Unauthorized Blanking Off.....	147
Radar.....	148
High Frequency Direction Finders.....	149
Jewell Heads Merchant Marine Personnel.....	150
Loran.....	150
Lessons from Casualties:	
Danger in a Void Space.....	151
Dirty Burners.....	151
Wiped Bearings.....	151
Shipyard Fire.....	152
Hearing Units.....	152
Appendix:	
Amendments to Regulations.....	152
Directives.....	154
Equipment Approved by the Commandant.....	154
Merchant Marine Personnel Statistics.....	156

The Cover: A New Coast Guard Cutter Showing Radar Screens.

## COUNCIL ACTIVITIES

FOR several months the Council has had under study a codification of various instructions to the field on inspection matters. Heretofore these instructions have been issued in the form of memoranda to the District Coast Guard Officers, Marine Inspection Memoranda, and Navigation and Vessel Inspection Circulars, etc. The codification has now been completed and distributed to the field and will supersede the previous variety of forms and bring into one publication all such instructions. The revised instructions will not supersede, insofar as the public is concerned, information which was disseminated through the medium of the Navigation and Vessel Inspection Circulars. The Council proposes in the near future to issue to the interested public a statement which will provide a list of the Navigation and Vessel Inspection Circulars which are currently in force. This will enable operators to eliminate from their files data which is no longer pertinent.

The Merchant Marine Council Committee is consulting with the Maritime Law Association on the question of what restrictions, if any, should surround the examination of official log books by interested parties during peacetime. During the war examination was not permitted for security reasons.

The problem of proper regulation of motor vessels which are not presently subject to regulation is becoming increasingly troublesome. A recent

communication to Headquarters indicates that the Corps of Army Engineers on the western rivers are considerably exercised over what they term "irresponsible activities of unlicensed craft." They have been experiencing a series of costly accidents to installations which they feel could be remedied by proper licensing and inspection. The United States Attorney has also inquired of Headquarters what steps could be taken to correct the situation.

The Coast Guard has felt for some time that there was imperative need of some control over commercial motorboats. The Commandant has directed that the matter be discussed in detail at the Western Rivers Panel meeting which will be held in St. Louis on 27 November 1945.

At the suggestion of the Western Rivers Panel, the Council considered a proposed relaxation of the present requirement for a licensed officer or certified tankerman on each watch aboard tank barges while being towed. The proposed relaxation would provide merely for one officer or tankerman on board the towing vessel. Inasmuch as this problem will involve other areas in addition to the western rivers, the matter is being discussed with the tanker industry.

At the request of the Judge Advocate General of the Navy, the Merchant Marine Council recommended that the Commandant define specifically the line of demarcation between inland waters and the high seas in

Mamala Bay, Hawaii, to prevent the confusion which has existed in these waters for some time. Some years ago the former Bureau of Marine Inspection and Navigation determined a policy in such instances that, where possible, such lines of demarcation should be drawn between two fixed landmarks and thereby avoid subsequent changes which might follow were buoys used. In line with this policy, the Commandant approved a line of demarcation drawn between Barbers Point and Diamond Head.

The question of the amount of pressure to be applied during the annual hydrostatic testing of boilers has been considered by the Council. It is felt in some quarters that the present requirement of one and one-half times normal working pressure is unnecessarily stringent. Other views lean to the belief that annual hydrostatic tests are not necessary. Before taking action on this matter, the Council is discussing the problem with representatives of the American Bureau of Shipping and the various boiler manufacturers.

During the war, due to critical shortages of certain materials, the Coast Guard permitted life rafts, etc., to be marked with inferior grades of metal and plastics. These plates have shown very rapid deterioration. As there is no longer a critical shortage of brass, the Council took action to require that plates be made of brass.

On 23 August 1945, there was published in the Federal Register an

amendment to the Tank Vessel Regulations which prohibited the use of calcium water lights on and after 1 October 1945. The Merchant Marine Technical Division recently revised the specifications for electric water lights which will be required as a substitute. Inasmuch as production will not be under way so as to permit the installation of the required approved electric water lights by 1 October, the Commandant approved an extension of the deadline to 1 January 1946. The revised specifications for electric water lights will be filed with the Federal Register shortly and will be available upon application to Headquarters.

The Port Security Division, working in conjunction with the Water Transport Divisions of the Army and Navy, has issued a revision of Part 146 of Subchapter N. As the Federal Register Order is very voluminous it is not reprinted in the *Proceedings*. Copies will be available upon application to Headquarters.

Part 155 of Subchapter O, which was rescinded by the Commandant effective January 2, 1946, contained a provision whereby engineers' licenses were subject to limitation of the horsepower for which the individual engineer was qualified. Horsepower is unquestionably a more logical method of qualifying an engineer than the previous method of using tonnage. After discussions with industry and labor, the Council recommended that the wartime practice be carried over into the peacetime regu-

lations. A Federal Register Order providing for this retention has been prepared and recommended to the Commandant for adoption. It is expected that this order will be published in the near future.

Also, in connection with personnel matters, the Chief, Merchant Marine Personnel Division, has advised that the new merchant mariner's document, which was previously reported in these columns, will be issued to personnel on and after 1 November 1945. The procedure for obtaining the new document is more fully reported in an article in this issue of the *Proceedings*.

The Commandant has been considering for some time the effect upon the merchant marine during the transition period from wartime to peacetime, were the waiver power given him by the President under executive order to lapse on 31 December 1945. A communication has been forwarded to the Chief of Naval Operations advising him that the Coast Guard feels strongly that the waiver power granted by the Second War Powers Act should be extended for another year. In order to bring the matter forcibly and clearly before the public and other interested government agencies, the Commandant called a public hearing to be held at 42 Broadway, New York City, at 10 a. m. on 4 October. Simultaneously, for the benefit of the West Coast operators, another public hearing will be held in San Francisco on the same subject.

## Victory Over Japan Brings Rescission of Majority of Emergency Regulations (Subchapter O)

AT the time of the United States' entrance into the war and, to a certain extent, even prior thereto it was apparent that the regulations having to do with lifesaving apparatus, etc., while adequate for peacetime requirements, did not suffice for wartime. Accordingly, many regulations were approved having to do with lifeboat and life raft equipment, extra life preservers, special debarkation aids and other additional lifesaving equipment. Various new operational requirements were also made mandatory. All of the foregoing were found necessary due to the exigencies of the war effort.

These special requirements were grouped in a new subdivision of the Code of Federal Regulations, Subchapter O, "Regulations Applicable to Certain Vessels and Shipping During Emergency." This segregation had a twofold aspect: First, having all the wartime requirements in one place made them handy to refer to, and second, it was felt that with the surrender of Japan, when the need for

most of the special requirements would cease, it would be simpler to repeal all of Subchapter O at one time without having to make a separate recommendation for every single requirement. At the same time, if any of the emergency regulations seemed particularly applicable to peacetime operation they could be put into the regular rules and regulations.

In order to carry out the foregoing, the Commandant in an order dated 2 September 1945, rescinded all of the regulations now found in Subchapter O, effective immediately with one exception. This one exception is Part 155 relative to licensed officers and certificated men. This part is rescinded effective 2 January 1946. The reason for this delay is that it will allow men now on voyages and men now taking courses in licensed officers' training schools to complete their training and take their examinations. After the date mentioned above, however, the pre-examination requirements for licensed officers and certi-

ficated men will be the same as they were before the war.

It is felt that several of the wartime requirements would be valuable guardians to safety of life at sea in peace as well as war and, accordingly, these rules have been placed in the appropriate categories of the regular rules and regulations. All of them, with the exception of the one dealing with Automatic Electric Water Lights are listed in the Federal Register for 5 September 1945. The rules for the Electric Water Lights appeared in the Federal Register for 23 August 1945. The retained portions of Subchapter O have, therefore, been disposed of as follows:

Section 150.1 of Part 150—Inspection and Certification of Vessels Documented under Act of 6 June 1941, was transferred to Section 63.2a of the General Rules and Regulations for Ocean and Coastwise.

Section 153.2a (a) Steel, Structural for lifeboat davits, has been transferred to Section 37.1-4 (g) of the



Tank Vessel Regulations; Sections 59.3 (m) and 60.21 of the General Rules and Regulations for Ocean and Coastwise; Section 76.15 (Great Lakes); Section 94.14 (Bays, Sounds and Lakes Other than the Great Lakes); and to Section 113.23 (Rivers).

Section 153.6 (m) (5) Hermetically Packaged Provisions for Lifeboats, has been transferred to Sections 33.3-1 (u) of the Tank Vessel Regulations and to Sections 59.11 (w) (1) and 60.9 (w) (1) of the Rules and Regulations for Ocean and Coastwise.

Sections 153.7 (c) (5) and 153.7a (aa) (5) Hermetically Packaged Provisions for Life Rafts, have been transferred to Sections 33.3-5 (h) of the Tank Vessel Regulations and to Sections 59.52 (g) and 60.45 (g) of the Rules and Regulations for Ocean and Coastwise.

Sections 153.6 (p), 153.6a (a) (3), 153.7 (e) and 153.7a (gg) Drinking Water contained in Hermetically Sealed Cans for Lifeboats and Life Rafts, have been transferred to Sections 33.3-1 (aa) and 33.3-5 (m) of the Tank Vessel Regulations and to Sections 59.10 (j), 59.11 (bb), 59.52 (1), 60.8 (f), 60.9 (bb) and 60.45 (1) of the Rules and Regulations for Ocean and Coastwise.

Sections 153.6 (t), 153.7 (k) and 153.7a (g), Daytime Distress Signals, have been transferred to Sections 33.3-1 (bb) and 33.3-5 (n) of the Tank Vessel Regulations and to Sections 59.11 (cc), 59.52 (n), 60.9 (cc) and 60.45 (n) of the Rules and Regulations for Ocean and Coastwise.

Sections 153.6 (u), 153.7 (i) and 153.7a (dd) Signalling Mirrors, have been transferred to Sections 33.3-1 (cc) and 33.3-5 (o) of the Tank Vessel Regulations and to Sections 59.11 (dd), 59.52 (o), 60.9 (dd) and 60.45 (o) of the Rules and Regulations for Ocean and Coastwise.

Section 153.15 Lowering Bitts, has been transferred to Section 37.1-6 of the Tank Vessel Regulations and to Sections 59.37 and 60.19 of the Rules and Regulations for Ocean and Coastwise.

Section 153.15b Lifeboat disengaging Apparatus, has been transferred to Section 37.1-7 of the Tank Vessel Regulations; Sections 59.68 and 60.61 of the Rules and Regulations for Ocean and Coastwise; 76.62 (Great Lakes) and to 94.59 (Bays, Sounds and Lakes Other than the Great Lakes).

Section 153.22 Electric Water Lights, has been transferred to Sections 33.3-5 (k), 33.3-6 (i), 33.3-8, 33.7-4, 37.8-10, 37.9-1 and 37.9-2 amended and Sections 37.9-3 to 37.9-7 inclusive, of the Tank Vessel Regulations were deleted.

Section 156.3 Electrical Installations has been transferred to a new Section 32.6-6 of the Tank Vessel Regulations and added as new paragraphs to Section 63.9 of the Rules and Regulations for Ocean and Coastwise; 79.9 (Great Lakes), 97.11 (Bays, Sounds and Lakes Other than the Great Lakes) and to 116.16 (Rivers).

Section 160.1 concerning tank barges constructed of materials other than iron or steel and certificated before 2 March 1946, has been transferred to Sections 30.3 (j) and (u) of the Tank Vessel Regulations.

Prior to the Seamen's Act of 4 March 1915, unlicensed seamen were not required to carry any documents as evidence of their qualification. That Act, which was designed to prevent unskilled manning of American vessels and for the further protection of life at sea, provided for issuance to qualified personnel of certificates as able seamen and lifeboatmen. These certificates fell into ill repute because the authorized holders were not sufficiently identified therein and it became commonplace for unqualified persons to use purchased and stolen certificates for employment on American vessels. Concern over this practice reached its climax after the S. S. *Morro Castle* disaster and resulted in the enactment of Public Law 808 on 25 June 1936. This act required that every seaman employed on an American vessel of 100 gross tons and over, except vessels employed exclusively in trade on the navigable rivers of the United States and unrigged vessels other than sea-going barges, carry a certificate of service authorizing him to serve in the capacities specified in such certificate. The holder of one of these certificates was to be identified thereon by a photograph and a thumbprint.

The act of 25 June 1936, as amended on 24 March 1937, also required that every seaman employed on a United States vessel of 100 gross tons or upward, except vessels employed exclusively in trade on the navigable rivers of the United States and unrigged vessels other than sea-going barges, should carry either a Continuous Discharge Book or a Certificate of Identification for the purpose of accurate identification. These documents contain data concerning the holder's citizenship and complete descriptive information as well as a thumbprint and a photograph.

As a result of the enactment of these various laws, every person on board a United States merchant vessel covered by the Acts of 25 June 1936, and 24 March 1937, except the master, now carries either a Continuous Discharge Book or a Certificate of Identification and, in addition, a certificate of service or a license for the rating, or ratings, in which he is authorized to serve. Many seamen, therefore, carry more than two documents; for example, at the present time, a man qualified as able seaman, lifeboatman, and wiper must have four separate documents.

The problem was discussed with representatives of maritime, labor, and management at a public hearing of the Merchant Marine Council in New York on 19 October 1944, and again at a public hearing in New York on 19 April 1945. Basic plans were submitted at both of these meetings

## Mariner's Documents Simplified

AFTER many months work, the Merchant Marine Council and the Merchant Marine Personnel Division have devised a drastic simplification of the multitude of documents it has been necessary for Merchant Marine personnel to carry about with them in order to ply their trade. After 1 November 1945, a single document, the Merchant Mariner's Document, will be available to men being licensed or rated for the first time, to officers securing renewals, and to men qualifying for raise of grade. Personnel will continue to have the choice of carrying the new document, or the present Continuous Discharge Book as required by law. Under the new program a licensed officer serving in a licensed capacity may present for employment, in lieu of the replaced forms, a license and a Continuous Discharge Book or a license and a Merchant Mariner's Document. A licensed officer serving in an unlicensed

capacity, or an unlicensed seaman, may present for employment, in lieu of the replaced forms, a Merchant Mariner's Document only, unless he elects to carry a Continuous Discharge Book, in which case he must present for employment both a Continuous Discharge Book and a Merchant Mariner's Document.

The practice of requiring merchant seamen to carry government documents as evidence of professional qualification dates back to 1852. In that year the Board of Local Supervisors was authorized to issue licenses to engineers and pilots of passenger steamers. Subsequently, the licensing of masters, chief mates, engineers and pilots of all steam vessels was authorized by the act of 1871. Public act 772 of 20 June 1936, provided for the issuance of licenses to officers of sea-going vessels propelled by internal combustion engines of 300 gross tons and over.

and were adjusted to incorporate comments and suggestions made by various interested parties.

The new Merchant Mariner's Document is a small certificate which fits in any standard billfold and is protected from the elements and from wear by a plastic cover. When the status of the holder of a Merchant Mariner's Document changes he will surrender his document and be issued a new one which will describe his current status.

The Merchant Mariner's Document will replace the following documents:

1. Certificate of Identification, NAVCG 718.
2. Certificate of Service as Qualified Member of the Engine Department, NAVCG 883.
3. Certificate of Service (other than Able Seaman or Qualified Member of the Engine Department), NAVCG 884.
4. Certificate as Tankerman, NAVCG 885.
5. Certificate of Efficiency to Lifebornmen, NAVCG 974.
6. Certificate of Service to Able Seaman, NAVCG 979 (Blue).
7. Certificate of Service to Able Seaman, NAVCG 979 (Green).

The new document merely replaces the forms now in use and will be issued under the same conditions required for the issuance of the documents listed above. If a seaman elects to carry a Continuous Discharge Book he will carry a maximum of two documents and the Merchant Mariner's Document will fit conveniently inside the back cover of the book.

Any person who, in the future, qualifies for an original or duplicate of one or more of the documents being replaced will be issued only the Merchant Mariner's Document, which will be endorsed in such a manner that it will fulfill the requirements of any combination of the above certificates. Seamen who, at the present time, hold one or more of the above certificates will be permitted to turn in such certificates and obtain, without examination, a Merchant Mariner's Document. It will be required that any person who is issued a Merchant Mariner's Document surrender all other valid seaman's documents issued by the U. S. Coast Guard or by the Bureau of Marine Inspection and Navigation of the Department of Commerce which are in his possession, except any certificate of license, certificate of registry, certificate of discharge, or Continuous Discharge Book.

A Merchant Mariner's Document issued to a licensed officer will be endorsed for any unlicensed rating in the department in which he is licensed and will be a certificate of service authorizing the holder to serve in any unlicensed capacity in such department

without being required to present his license. A Merchant Mariner's Document issued to a staff officer will be endorsed as follows: "See Certificate of Registry."

The holder of a Merchant Mariner's Document endorsed for the rating of able seaman may serve in any unqualified rating in the deck department and as a lifeboatman without obtaining an additional endorsement. This type of document will describe clearly the type of able seaman certificate which it represents, e. g.:

1. Able Seaman—Any Waters.
2. Able Seaman—Any Waters, 12 months.
3. Able Seaman—Great Lakes, 18 months.
4. Able Seaman—on freight vessels 500 gross tons or less on bays or sounds, and on tugs, towboats, and barges on any waters.

The holder of a Merchant Mariner's Document endorsed with one or more Qualified Member of the Engine Department ratings may serve in any unqualified rating in the Engine Department without obtaining an additional endorsement. This does not mean that an endorsement of one Qualified Member of the Engine Department rating authorizes the holder to serve in all Qualified Member of the Engine Department ratings. Each Qualified Member of the Engine Department rating for which a holder of a Merchant Mariner's Document is qualified must be endorsed separately. Members of the Engine Department should, therefore, qualify for as many ratings as possible at one time.

A Merchant Mariner's Document endorsed for steward, cook or baker will authorize the holder to serve in any unskilled capacity in the Steward's Department and when the holder of a Merchant Mariner's Document has qualified as a food handler, the endorsement of his rating will be followed by the further endorsement "(F. H.)."

The Merchant Mariner's Document will carry a Z-number if it is being used as a Certificate of Identification. However, when the holder of a Merchant Mariner's Document elects to carry a Continuous Discharge Book, his Merchant Mariner's Document will be only a certificate of service and will carry the number shown on his Continuous Discharge Book.

License forms will not be replaced by the Merchant Mariner's Document. However, a new single form has been designed which will more fittingly reflect the importance of the position in which its holder is qualified to serve.

## Unauthorized Blanking Off

IN a recent number of the *Proceedings* of the Merchant Marine Council there appeared an article entitled, "Remote Control Valves." This article cited various instances wherein remote control valves on bilge suction lines, fuel oil lines, etc., had become frozen owing to nonoperation. Generally these valves were frozen in the open position and upon occasion serious flooding of uninjured compartments on various vessels had occurred owing to the inability of the ships' personnel to close the remote control valve concerned. The article also stated that many times ships' officers did not know the purpose of these valves or even that they existed.

A somewhat similar situation exists in regard to a practice which has crept in whereby overflow lines from settling tanks, deep tanks, etc., have been blanked off. This has been done for various reasons but the commonest apparently, is that if the overflow lines are left clear and the settling or deep tanks are pumped full, the overflow is directed overboard into the harbor waters, thus contaminating the water and rendering the ship liable to a fine. Apparently some engineers have felt that by blanking the overflow off and depending on the air vent which is located two decks higher than the overflow for relief of pressure caused by pumping up the tank, this danger would be obviated. On at least one occasion where this was done, the flame screen in the air vent was partially plugged up and the pressure in the tank increased to such an extent as to rupture a welded joint in the tank causing the discharge of considerable fuel oil into the engine room.

When an overflow, as well as a vent pipe, is fitted to a tank, the vent does not have to exceed 2½-inch pipe size. On the other hand, the area of the overflow pipe has to at least equal the area of the filling connections of the tank. If no overflow pipe is fitted, the area of the vents must equal the area of the filling pipes. Tanks fitted with overflow pipes are designed for a head pressure equal to the height of the highest part of the overflow pipe above the tank top. In the case discussed above, with the overflow pipe blanked off, the tank would be exposed to considerably higher pressure than it was designed for if filled to the top of the vent pipe. As it was, the partially blocked-up flame screen retarded the escape of air from the tank to such an extent that a welded



joint in the tank yielded under the strain.

Occasionally deep tanks are fitted so as to carry dry cargo during part of the voyage. When operating in this way, bilge suction on the deep tanks to the fire or bilge pumps remain in operating condition. However, when these tanks are used for liquid cargo these bilge suction lines must be blanked off in order to prevent possible contamination of the fire lines, etc. This is one condition where blank flanges may be used in bilge suction lines.

On some of the new troop conversions a type of scupper valve is being installed below the tween deck level to which are connected washrooms, toilets, and tween deck drains from the troop deck quarters. These valves are fitted with positive means for closure operated from the main deck and apparently comply in all respects with the requirements of the load line rules. In a great many cases, however, it has been found impossible to close these valves by means of the positive closure mechanism. The result has been a leakback of water through the valves by way of the deck drains after the vessels have been loaded to the usual

draft. In all such cases it has been found necessary to insert blanks between these scupper valves and the drains from the troop's quarters. To aid in preventing such occurrences, all positive closure valves, including those described in this paragraph, should be tested to prove operating efficiency before acceptance at shipyards and repair basins.

The vent and overflow lines fitted to settling tanks, deep tanks, double bottoms, etc., are there for the purpose of discharging air from the tanks while in the process of filling and, in the case of the overflow lines, for the purpose of discharging any excess liquid from the tank into another tank or overboard as the case may be when the tank is overflowed. The vent lines are also used to admit air to the tank when it is being pumped out, thus permitting the tank to be emptied. Blanking the lines off, or permitting the flame screens fitted in them to become plugged up, renders these safety features inoperative and leads to casualties such as that described in a preceding paragraph. Bearing the foregoing in mind, it becomes apparent that blank flanges should never be inserted in a vent or overflow line ex-

cept possibly in connection with tank damage, and their use in other lines should be kept to a minimum. If conditions do demand their use in connection with some specific job, they should be plainly marked with a large tab or some other marking device and should be removed as soon as the need for their presence is ended.

In conclusion, ships' officers are again reminded that remote controls in bilge lines and deep tank suction lines; scupper valves from the quarters, vent and overflow lines from settling tanks, double bottoms, etc., are all vital parts of the vessel upon whose good condition and proper functioning may well depend the ultimate safety of the ship itself. They should all be carefully inspected and determined to be in good operating condition before the vessel leaves port. To maintain them in proper operating condition at all times is one of the most important of the ship's officers' duties and one which should never be neglected, in their own interest, if for no more admirable reason. Their knowledge of these less prominent features of their vessels will be checked up on at inspections and in the examination rooms.

## Radar as an Anticollision and Navigational Device

COMDR. O. C. Rohnke, USCG, gave a talk illustrated by moving pictures on the subject of future use of radar by merchant vessels for the prevention of collisions and strandings. The occasion was the annual Merchant Marine Conference, held in New York, on 18 and 19 October. Excerpts from Comdr. Rohnke's talk follow:

"The possibility of collision is one of the mariner's constant, most-feared perils. It is a danger greatly increased during periods of low visibility. During such periods a vessel's navigators heretofore have had to rely primarily on audible sound signals to indicate the presence of other vessels in the vicinity and were dependent upon the look-outs extremely limited range of visibility to advise them of other dangers in their immediate vicinity. Neither means was entirely effective. In the future they will be replaced by radar, one of the great scientific developments that has come out of this war. Radar can see through fog, rain, snow, sleet, darkness or, in other words, all forms of low or zero visibility. Radar shows the presence of all objects above water within its range and translates them into picture form or what is called the 'scope'."

"Here is a good example of how radar can contribute to the safety of

a ship already modernly equipped in the pre-radar sense of the word. Not many years ago a large passenger vessel, proceeding through a thick fog, was approaching a light vessel. Radio beacon contact had been established on the light ship by this passenger vessel. But even with the aid of the radio beacon, exact position of the light ship was not known. Running down the radio bearing, the liner evidently intended just to clear the light ship thereby establishing definitely the ship's position. But instead there was a collision and the light ship was cut in two, sinking with the attendant loss of the lives of several of her crew. Had the liner been equipped with radar there would have been no collision because the exact range and bearing of the light ship would have appeared on the radar scope. The radar presentation plus the radio bearing would have clarified the entire situation.

"In northern waters the iceberg presents one of the navigator's greatest hazards with the classic example of the Titanic remembered as the outstanding maritime tragedy caused by these floating ice mountains. But had the Titanic been radar-equipped, she would have been cognizant of the presence of the berg which caused her death, in time to avoid colliding

with it. The bearing and distance of this berg, as well as the surrounding icebergs, would have been indicated as 'pips' or objects on the radar scope. However, it must be remembered that for radar to pick up objects, they must be above water. Growlers, especially those just awash, may prove difficult for the instrument to pick up in a heavy sea.

"Vessel collisions are not always the fault of low visibility. Sometimes they are due to personnel failures in which the human error in judging distances by means of the seaman's eye results in accident. It is difficult at times and especially at night to estimate distances. But radar does not make an estimate. Instead it indicates range and bearing with a high degree of accuracy. Thus it is reasonable to assume that personnel failures can be reduced through the use of radar.

"The common method of determining whether vessels are on collision courses is for each to take a bearing and then determine whether that bearing remains constant or changes. If it changes, the vessels will cross clear, whereas a constant bearing means that the vessels are on collision courses. But when a 'pip' or vessel appears on the radar scope, its movement or bearing can be noted

and attentiveness to the scope soon will reveal whether the vessels will pass clear or whether a collision course exists and a change is necessary.

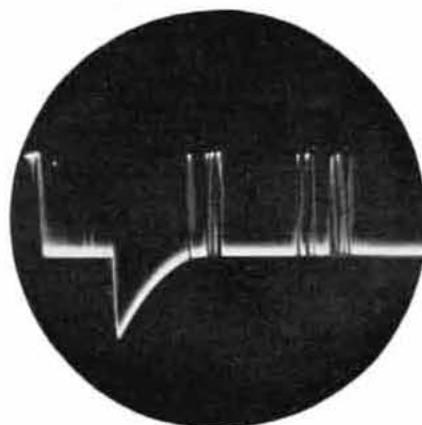
"Safe navigation, of course, is of paramount interest to followers of the sea. Strandings, collisions and other accidents costs lives, time, and money. Our shores are littered with the skeletons of vessels lost when their operators thought themselves in safe waters, only to be brought up suddenly hard and fast aground. Strandings occur in periods of both good and low visibility but the latter produces by far the greater hazard. However, commercial shipping must meet its schedules, perishable cargo must be rushed to its destination. Every delay in entering or leaving a port is costly to the operators. Down through the years many devices have been added to ships' equipment to aid in their safe navigation. These include the fathometer, the direction finder, the gyro compass, the patent log, etc. But now we have a new device that actually sees during periods of low visibility.

"There is the fairly recent example of the *Henry Burgh* aground on the Farallon Islands outside San Francisco with the lives of all aboard endangered and with the ship finally broken up, a total loss of ship and cargo. When she went aground, a thick fog prevailed and a fairly heavy sea was running. The radio direction

finder had been used but it was not properly calibrated. The fathometer was not used. The ship also was proceeding at a higher rate of speed than was prudent in making a landfall under the prevailing weather conditions. But, in spite of all this, it is believed radar would have saved the ship because the instrument's picture would have outlined the islands, giving the bearing and distance off shore and showing a complete picture of the immediate surroundings.

"The operational advantages of radar are:

"1. It is the best anticollision device yet perfected.



A-scope showing range step and individual contacts.

"2. It makes for greater safety while piloting or making landfalls during periods of low visibility.

"3. It shows continuous, instantaneous, accurate ranges and bearings of objects.

"4. It presents a chart-like picture of the surroundings, the presentation being in the nature of a polar chart.

"5. By observation of the scope movements of objects are indicated.

"On the other hand, radar has certain limitations:

"1. Objects cannot be readily identified. All objects of about the same size present the same pip. However, identification can be made quite often by implication such as movement, relation to other objects, shape (used in landfalls) and sometimes initial range of detection.

"2. Radar chart presentation on the scope requires interpretation due to line of sight characteristics which give shadow effects. In other words, larger intervening objects may blank out objects behind them.

"3. It can only be used for slightly over line of sight distance.

"4. Weather and sea return affect the picture.

"5. Objects sometimes not detected because of the movement of these objects caused by bobbing up and down in a seaway. Small vessels and buoys are particularly affected. The outgoing signals miss striking the object when it is in the trough of a wave, therefore, there is no reflected wave for presentation on the scope.

"6. Nonconductors such as wooden vessels may give poor echo."

## High Frequency Direction Finder Networks

COMMODORE E. M. Webster, USCG, Chief of the Communications Division of the Coast Guard, addressed the American Merchant Marine Conference in New York on October 18th on the general subject of Postwar Navigational and Rescue Networks. Excerpts from his address follow:

"Coast Guard Headquarters is charged with the direction of a system of communication devices, a major function of which is the promotion of safety at sea and the assistance of persons in distress, in addition to serving the communication needs of the rescue organization itself. Included in the facilities which we operate is a network of primary and secondary radio stations, a land line organization linking the various activities of the Coast Guard and connecting them with Army, Navy, and commercial facilities, and strategically located nets of medium frequency and high frequency direction finder stations.

The reason for the existence of all of these facilities and the conduct of all these activities is the promotion of safety at sea and in the air.

"In this connection I should mention the development in the field of high frequency direction finding. Of course the use of direction finders in the high frequencies is not a new thing. However, the war has given us equipment which for the first time has been sufficiently dependable and accurate to justify the organization of large nets of these stations for use as a navigational and rescue aid. The development has been primarily in the field of shore based direction finders, which can supply bearings on positions to ships and aircraft. While improvements have been made in shipboard devices of this connection, the fact that a sky wave rather than a ground wave is employed necessitates the application of judgment to the plotting of bearings which must

be based on extensive training. For this reason, and because of the large size of this equipment which has to be used to get accurate results, shipboard direction finding in high frequency range is not at present very practical.

"The Coast Guard is now operating several networks of these stations. We have one in the Atlantic, really consisting of several nets, which, together with the Canadian network with which it is integrated, extends from Greenland to Brazil. In addition there is a gulf net, a West coast net extending from California to the Aleutian Islands, and several nets not yet permanently organized in the Pacific. Because of the great range at which these stations can take bearings, these networks will be able to give substantially 100 percent coverage in the Atlantic and Pacific shipping and flight lanes. These stations are at present guarding 8280 kilocycles, which has been used during the

war as a high frequency distress channel, and are connected by teletype with rescue centers, as well as with each other by teletype and radio circuits, so that they are prepared to switch on notice to any other frequency that a distressed ship or aircraft may be employing. While at present their activities are confined largely to distress generally and to potential distress of lost aircraft, it is expected that eventually their services will be extended to the supplying of general navigational assistance. In connection with this, we are working on the preparation of new procedures for the use of these stations as a navigational aid, which will be incorporated in the new communications convention.

"With the development of this system, of the Loran system, and other navigational devices, it is my present opinion that the medium frequency direction finder net will fail to serve a need sufficiently great to justify its continued existence. We have not made a final decision in this matter, and are naturally interested in any comments which may be made by those who might make use of it."

## Jewell Heads Merchant Marine Personnel Division

CAPT. Henry T. Jewell, USCG, has been appointed Chief of the Merchant Marine Personnel Division of the Coast Guard and member of the Merchant Marine Council, succeeding Captain Kenneth K. Cowart, USCG, who has been assigned to sea duty as Commanding Officer of the U. S. S. *Admiral E. W. Eberle*.

Captain Jewell, who has had 21 years service in the Coast Guard, reported to Coast Guard headquarters in his present capacity after leaving London, where he was senior Coast Guard officer, Europe. Previously, he had served as executive officer of the Coast Guard-manned transport, U. S. S. *Wakefield* (ex-Manhattan) in the Atlantic.

Captain Jewell was attached to Coast Guard headquarters in 1942, when the functions of the Bureau of Marine Inspection and Navigation were transferred to the Comman-

dant. He became the first head of the Merchant Marine Personnel Division and as such established the present system of Merchant Marine Hearing Units which sit in cases where shortcomings are charged against licensed or certificated personnel.



Captain Henry T. Jewell, USCG, Chief, Merchant Marine Personnel Division.

## Loran; A New Long Range Electronic Navigational Aid

AS part of the Coast Guard participation in the American Merchant Marine Conference at New York, on 18 and 19 October, Capt. Lawrence M. Harding, USCG, gave a talk on the peacetime use of Loran. Excerpts from Captain Harding's talk follow:

"The word 'Loran' is an abbreviation of three words 'Long Range Navigation.' Actually Loran is considerably more than this. It is a dependable system of long range navigation which is unique in providing a means of quickly and accurately ascertaining geographical position over long distances, regardless of weather conditions. Loran is a radically new type of navigation. Although it is an electronic device—quite close kin to Radar—it offers all of the important advantages of the conventional celestial navigation and the time required is considerably less.

"Loran uses a wave length which is not greatly different from the range of wave lengths used for long-range radio communications. Thus its waves are reflected from the ionosphere and follow around the earth's surface as do the familiar radio broadcasting waves. It naturally follows that the range for navigational use of Loran is considerably greater than that afforded by its British counterpart. In fact, the effective range is limited solely by the power output of the transmitters and the rate at which

their signals are absorbed by the earth's surface medium over which they pass.

"This characteristic, coupled with others presently to be enumerated, has established Loran as the basic navigational scheme for the long-range ships and aircraft of the United Nations, not only for combat craft but for transport ships and aircraft as well. This demand for Loran has resulted in the construction of a vast network of Loran stations. Thus, Loran service is now afforded navigators along both coasts of North America, along the busy great circle courses of the North Atlantic and North Pacific, and in the central and southwest Pacific where pin-point navigation is essential. The great majority of these stations, though born of war-time expediency, will be retained as permanent establishments.

"The range and accuracy of Loran establish it as a basic, sound navigational system. Its freedom from many common equipment errors bespeaks its reliability. Changes in weather, darkness, etc., are unknown to Loran. The fact that the Coast Guard maintains Loran transmitting stations in most areas of the world marks it as a navigational device that can be installed on commercial ships and put to good use immediately.

"What then is required for an average commercial vessel to utilize the Loran system of navigation? One item of equipment only is necessary. This is a receiver-indicator which is installed on the bridge where it may be used constantly as a navigational aid. This characteristic of Loran is one of its principal assets. Being thus unaffected by weather it may constantly be used, with the result that the navigator is always confident of his position. It may not have been possible to obtain a celestial sight for several days, yet the navigator is always able to determine his position quickly and as accurately as though he were using celestial navigation. One of the principal reasons that our air forces were able to bomb Germany and Japan round-the-clock, and our ships were able to steam when and where they pleased in search of the enemy was the reliance that could be placed in Loran. Obviously then, Loran will occupy a vital place as a tool of the commercial ship's navigation. With his newly found ability to accurately establish his position in the thickest 'soup,' the navigator will save his ship many hours and miles of useless steaming which will contribute markedly to economy of operation and maintenance of schedule.

"The cost of a Loran receiver will probably be slightly higher than for a



good communications receiver. Various estimates have been made which indicate that the cost of buying and installing all necessary equipment will be in the neighborhood of \$500. The cost of maintaining Loran equipment is negligible. No special operator is required for the equipment. Every navigator can become a proficient Loran operator with 1 day's training on the receiver-indicator.

"It is obvious from what has been said that Loran, viewed from the post-

war application angle, possesses a number of salient advantages.

"1. The present day range is from 700 to 1,400 nautical miles. Laboratory work and field tests, now underway and well advanced, show that the daytime range can be increased under light noise conditions.

"2. Stability, reliability, and accuracy are very high.

"3. Receiver cost in first few years is about \$500.

"4. Equipment is very compact; shipboard receivers are now approximately the same size as a communications receiver.

"5. The system is fundamentally sound and is therefore susceptible to continued improvement with future development. For instance, direct reading receivers now in beginning production demonstrate by relatively simple connection to automatic pilots, automatic steering of aircraft will be possible."

## LESSONS FROM CASUALTIES

### Danger in a Void Space

Headquarters is in receipt of a report of a fire that occurred recently on a laid-up hulk resulting in the loss of five lives.

The circumstances briefly are as follows: A fire, probably caused by boys, broke out in the after peak tank of a laid-up hulk. The local fire department responded promptly and in a few minutes extinguished the fire. Following the practice of the fire department, a lieutenant entered the compartment to investigate the cause of the blaze. After a short examination, and while climbing out, he was seen to collapse and fall back into the compartment. Two other firemen immediately entered the tank through the small manhole, carrying a line with which to haul the lieutenant out of the tank. Before being able to render any assistance, the latter two firemen collapsed. While the fire chief was making a telephone call for medical assistance, two other persons, a fireman and an onlooker, entered the tank and were promptly overcome.

Gas masks were then brought from a fire truck and another fireman entered the tank wearing a canister type mask. He soon became dizzy and had to leave the tank after a futile effort to put a sling on the lieutenant. Finally a hole was cut in the deck and electric fans rigged to blow fresh air into the tank. Rescue operations were resumed and the victims removed although the rescuers using canister type gas masks had to be hospitalized. The Coast Guard investigation of the casualty developed that there was a deficiency in oxygen and a presence of carbon monoxide, either of which would be fatal.

The lesson to be learned from this unfortunate accident is very apparent. The fact that the canister type all-service gas masks used failed to give full protection, indicated a definite oxygen deficiency, which should

have been determined before entry was made into the compartment, by means of a flame safety lamp. It is reiterated that the canister type mask affords no protection to the wearer in spaces where there is a deficiency in oxygen.

If it was necessary to enter the compartment immediately after the fire, and tests had indicated an oxygen deficiency, then either a fresh air hose mask or oxygen breathing apparatus should have been used. Had either of these devices been employed, five lives would have been saved.

### Dirty Burners

So many of the marine casualties reported to the Coast Guard are of a minor nature and yet, for the safety of the vessels and their personnel, the elimination of these casualties is something to strive for. One such casualty involved a fire in the port donkey boiler of a vessel while loading cargo. Although the damage was not great, it was necessary to replace the furnace fronts and some of the plates of the wind box. However, it would not have taken much for this fire to jump from the air register to the floor plates and thus involve the machinery space, and possibly the entire vessel, in a major fire.

It was revealed from the investigation that the fireman who had just taken over the watch had not cleaned the burners, nor was any attempt made to do so during his watch up until the time of the fire. As a result, carbon had formed on the tip of the burner, which caused the oil to accumulate by dripping in the air box. After a sufficient quantity of oil had accumulated, the oil ignited from the heat of the furnace and enveloped the area surrounding the air registers on the donkey boiler. Immediate action was taken to pull the fires of this boiler and to increase the speed

of the forced draft fan for the purpose of purging the boiler. The plant was cut out immediately and the fire burned out by itself.

Although the monetary damage in this case was small, it illustrates how easily a fire in the machinery spaces can result when cleanliness is not maintained. Had the burners been cleaned as soon as they showed any signs of being dirty, this fire would have been avoided.

### Wiped Bearings

As a result of the war there has been a large increase in the number of men now going to sea on merchant vessels, with a corresponding decrease in their average years of experience. As a result of this lack of sufficient experience, some of the ships' personnel do not realize fully the importance of proper lubrication with respect to the efficiency of machinery operation, nor the damage that can be done by continuing machinery in operation after failure of the lubricating system. In the case of high speed machinery, the cessation of the flow of lubricating oil for as short a time as one minute can result in extensive damage. It is, therefore, imperative that engine room crews on merchant vessels thoroughly understand the lubricating systems under their supervision and watch them closely to insure their continuous operation.

The rapidity with which operating machinery can heat up after cessation of the flow of lubricating oil is illustrated in the case of a merchant vessel on which the assistant engineer discovered oil leaking from a cracked ell on the oil line. Without discussing the repair job with the chief engineer, the second assistant engineer decided to make repairs while the propulsion machinery was in operation. He assembled the tools he needed for removing and replacing the cracked ell. He then stationed the oiler at

the bearing thermometer and the junior engineer at the lube oil supply line. The lubricating oil was turned off and work immediately started to remove the cracked ell. Almost at once the temperature of the bearing began to rise. In the middle of the repairs, the temperature of the bearing had risen so high it was necessary to secure the main propulsion machinery. It was too late, however; the damage was done. The bearings were wiped, and as a direct result of misalignment caused by the wiped bear-

ings, the blades of the high pressure turbine rotor engaged with the stator blades, rendering the high pressure turbine inoperative and making it necessary for the vessel to return to the United States with only the low pressure turbine in use. This case illustrates the importance of maintaining lubrication. The flow of lube oil should not be halted while machinery is in operation even though the period of interruption is of very short duration. Effective lubrication requires continuity in flow.

## \$3,000,000 Shipyard Fire

THE officers and men attached to the Assistant Captain of the Port unit in Portland, Oreg., distinguished themselves by performing outstanding service in firefighting and rescue work during the disastrous fire of 30 August 1945, which started at 0805 and destroyed the outfitting pier of the Oregon Shipbuilding Corp. and damaged five of the seven vessels in the final stages of completion moored at this pier. Damage has been estimated at approximately \$3,000,000.

Fire fighting was handicapped by lack of openings to the underpier area. Four vessels were moored bow to stern the full length of the pier and three additional vessels moored abreast of those at the pier prevented direct attack of the fire. The wind striking the pier at right angles resulted in a strong up draft between the vessels and the pier, making access to the ships from the pier almost impossible. The vessels in peril at

the pier were hauled away after Coast Guard personnel swam to them from the opposite side of the slips with lines. Coast Guard personnel remained aboard the vessels after they were hauled away and towed to anchorages, where spot fires were extinguished with the aid of Coast Guard fireboats and yard workers.

Approximately 200 Coast Guard personnel provided manpower to augment the city fireboats and landside companies in addition to manning the following radio-equipped boats and vehicles: 5 fireboats, 4 patrol boats, and 9 transports, jeeps, and carryalls.

The fireboats were responsible for saving one Whirley crane, extinguishing the spot fires on the vessels as they were removed from the pier area, and preventing the fire from spreading to the mold loft which would have endangered the remainder of the yard facilities.

## Hearing Units

COAST GUARD Merchant Marine Hearing Units and Details investigated a total of 5,003 cases during the month of July 1945. From this number hearings resulted involving 136 officers and 1,078 unlicensed men. In the case of officers, 4 licenses were ordered revoked, 35 were suspended, 65 were suspended on probation, 32 were voluntarily surrendered, 3 hearings were closed with admonitions, and 21 cases were dismissed. Of the unlicensed personnel, 21 certificates were revoked and 438 were suspended, 578 were suspended on probation, 360 were voluntarily surrendered, 18 hearings closed with admonitions, and 80 cases were dismissed after hearing.

Two Coast Guard fireboats stood by to cover Portland's main waterfront facilities while all city fireboats and the balance of Coast Guard fireboats in Portland were at the yard. Some of the Coast Guard fireboats remained on duty for overhaul and to extinguish spot fires through 31 August.

From reports it is obvious that the Coast Guard and city fireboats were directly responsible for preventing further spread of the fire as the 10-inch water main on the pier was severed in the early stages of the fire resulting in loss of pressure in other mains until the control valves were closed.

# APPENDIX

## Amendments To Regulations

### TITLE 33—NAVIGATION AND NAVIGABLE WATERS

#### Chapter I—Coast Guard, Department of the Navy

#### PART 6—REGULATIONS FOR THE SECURITY OF PORTS AND THE CONTROL OF VESSELS IN THE NAVIGABLE WATERS OF THE UNITED STATES

##### GENERAL LICENSES

Pursuant to the authority vested in the Commandant, U. S. Coast Guard by § 6.18 of this part, Subpart D is amended as follows, effective upon publication in the Federal Register:

1. Section 6.201 is amended to read as follows:

§ 6.201 General License No. 1.  
(a) All vessels exclusive of those cov-

ered by § 6.19 of this part which are now in or which may hereafter enter the local waters of the United States as defined in § 6.1 (b) of this part bordering on or emptying into the Great Lakes and their connecting waters, the Atlantic Ocean, the Pacific Ocean, or the Gulf of Mexico are hereby generally licensed to move within or to depart from such local waters by crossing the international boundary between the United States and Canada or to operate in the waters of the Atlantic Ocean, the Pacific Ocean, or the Gulf of Mexico subject to the terms and conditions prescribed in paragraph (b).

2. Section 6.202 is hereby rescinded (10 F. R. 11308, 5 September 1945).

#### PART 6—REGULATIONS FOR THE SECURITY OF PORTS AND THE CONTROL OF VESSELS IN THE NAVIGABLE WATERS OF THE UNITED STATES

#### RECISSION OF SECURITY REGULATIONS FOR VESSELS IN PORT

Pursuant to the authority contained in section 1, Title II of the Espionage Act, approved June 15, 1917, 40 Stat. 220, as amended by the act of November 15, 1941, 55 Stat. 763 (50 U. S. C. 191, 191a) and by virtue of the Proclamation and Executive order issued June 27, 1940 (5 F. R. 2419) and November 1, 1941 (6 F. R. 5581), respectively, the regulations relating to the control of vessels in the navigable waters of the United States are amended, effective upon publication in the Federal Register, as follows:

Subpart E, "Security Regulations for Vessels in Port", is hereby rescinded.

#### PART 7—REGULATIONS FOR THE PROTECTION OF WATERFRONT FACILITIES

##### RESCISSION OF REGULATIONS

Pursuant to Executive Order 9074 (7 F. R. 1587) and the act of July 9, 1943 (Public Law No. 127, 78th Congress), the regulations for the protection of waterfront facilities, promulgated effective May 1, 1944 (9 F. R. 3461), are amended as follows, effective upon publication in the Federal Register:

Sections 7.1 to 7.8 inclusive, 7.15, 7.16, 7.20 to 7.23 inclusive, 7.25, 7.30 to 7.42 inclusive, 7.50, 7.51, 7.55, and 7.56, being Part 7, are hereby rescinded (10 F. R. 11943, 20 September 1945).

#### Chapter III—Coast Guard: Inspection and Navigation

#### PART 302—BOUNDARY LINES ON INLAND WATERS

##### PILOT RULES

By virtue of the authority vested in me by section 2, 28 Stat. 672, as amended, section 5 (a), 31 Stat. 141, as amended (33 U. S. C. 151; 48 U. S. C. 495), and Executive Order 9083, dated February 28, 1942 (3 CFR, Cum. Supp.), the following amendments to the regulations are prescribed:

Section 302.3 is amended to read as follows:

§ 302.3 *Modifications of general rule.* Lines of demarcation have been established for the following specific areas of inland waters on the Atlantic and Pacific coasts of the United States and Territory of Hawaii where the Inland Rules of the Road are to be followed; and inland waters of the United States bordering on the Gulf of Mexico where the Inland Rules of the Road or Pilot Rules for Western Rivers are to be followed.

Part 302 is amended by the addition of a new center heading and a new section 302.175 reading as follows:

##### TERRITORY OF HAWAII

§ 302.175 *Mamala Bay.* A line drawn from Barbers Point Lighthouse to Diamond Head Lighthouse (10 F. R. 11906-11907, 19 September 1945).

#### TITLE 46—SHIPPING

#### Chapter I—Coast Guard: Inspection and Navigation

##### Subchapter D—Tank Vessels

#### PART 33—LIFESAVING APPLIANCES

#### REQUIREMENTS FOR LIFEBOATS, LIFE RAFTS, AND BUOYANT APPARATUS

Section 33.2-5 *Tank vessels: Great Lakes—TB/L* is amended by changing the phrase "self-igniting water light" to "electric water light."

#### PART 37—SPECIFICATIONS FOR LIFESAVING APPLIANCES

#### LIFEBOATS, LIFE RAFTS, BUOYANT APPARATUS, AND DAVITS

Section 37.1-1 (c) is amended to read as follows:

§ 37.1-1 *Drawings, specifications, name plates—TB/ALL.* \* \* \*

(c) Builders of lifeboats shall affix a plate of brass or the equivalent to each lifeboat, having thereon the builder's name, number of boat, date of construction of boat, cubical contents of boat, and number of persons said boat will carry, as determined by the rules of the Commandant (10 F. R. 11859, 18 September 1945).

The headnote for section 37.1-7 is amended to read as follows:

§ 37.1-7 *Disengaging apparatus—TB/ALL.* \* \* \*

##### Subchapter G—Ocean and Coastwise: General Rules and Regulations

#### PART 59—BOATS, RAFTS, BULKHEADS, AND LIFESAVING APPLIANCES (OCEAN)

Section 59.13 (c) is amended to read as follows:

§ 59.13 *Drawings, specifications, name plate.* \* \* \*

(c) Builders of lifeboats shall affix a plate of brass or the equivalent to each lifeboat, having thereon the builder's name, number of boat, date of construction of boat, cubical contents of boat, and number of persons said boat will carry, as determined by the rules of the Commandant (10 F. R. 11859, 18 September 1945).

Section 59.52 (g) is amended to read as follows:

§ 59.52 *Equipment for life rafts.* \* \* \*

(g) *Provisions.* Two pounds of provisions for each person consisting of hard bread or its equivalent in any approved emergency ration of cereal or vegetable compound packaged in hermetically sealed containers of an approved type and stowed in provision lockers or other compartments providing suitable protection. No meat or other ration requiring a saline preservative shall be allowed.

#### PART 60—BOATS, RAFTS, BULKHEADS, AND LIFESAVING APPLIANCES (COASTWISE)

Section 60.10 (c) is amended to read as follows:

§ 60.10 *Drawings, specifications, name plate.* (See § 59.13 of this chapter, as amended, which is identical with this section.) (10 F. R. 11859, 18 September 1945.)

Section 60.45 is amended by changing paragraphs (g) and (l) and by the addition of two new paragraphs (n) and (o) reading as follows:

§ 60.45 *Equipment for life rafts.* (See section 59.52 of this chapter, as amended, which is identical with this section.) (The amendments to § 59.52

(l), (n) and (o), were published in the Federal Register dated 5 September 1945, 10 F. R. 11310.)

Section 60.61 is amended to read as follows:

§ 60.61 *Disengaging apparatus.* (See section 59.68 of this chapter, which is identical with this section.) (The amendment to § 59.68 was published in the Federal Register dated 5 September 1945, 10 F. R. 11310.)

##### Subchapter H—Great Lakes: General Rules and Regulations

#### PART 76—BOATS, RAFTS, BULKHEADS, AND LIFESAVING APPLIANCES

Section 76.16 (c) is amended to read as follows:

§ 76.16 *Drawings, specifications, name plate.* (See § 59.13 of this chapter, as amended, which is identical with this section.) (10 F. R. 11859, 18 September 1945.)

##### Subchapter I—Bays, Sounds, and Lakes Other Than the Great Lakes: General Rules and Regulations

#### PART 94—BOATS, RAFTS, BULKHEADS, AND LIFESAVING APPLIANCES

Section 94.15 (c) is amended to read as follows:

§ 94.15 *Drawings, specifications, name plate.* (See § 59.13 of this chapter, as amended, which is identical with this section.) (10 F. R. 11859, 18 September 1945.)

##### Subchapter J—Rivers: General Rules and Regulations

#### PART 113—BOATS, RAFTS, BULKHEADS, AND LIFESAVING APPLIANCES

Section 113.10 is amended by changing the third undesignated paragraph to read as follows:

§ 113.10 *Lifeboats: Drawings, specifications, name plate.* \* \* \*

Builders of lifeboats shall affix a plate of brass or the equivalent to each lifeboat, having thereon the builder's name, number of boat, date of construction of boat, cubical contents of boat, and number of persons said boat will carry, as determined by the rules of the Commandant. (10 F. R. 11859, 18 September 1945.)

##### Subchapter K—Seamen

#### PART 132—ALLOTMENTS OF SEAMEN WAGES UPON WHICH ALLOTMENTS MAY BE BASED

Pursuant to the authority vested in me by the act of June 26, 1884, ch. 121, sec. 10 (23 Stat. 55) as amended (46 U. S. C. 599), and Executive Order 9083, dated 28 February 1942 (3 CFR, Cum. Supp.) § 132.4 is amended, effective 1 October 1945, to read as follows:

§ 132.4 *Wages upon which allotments may be based.* Allotments may be made by seamen only upon the amount of the wages for which they are signed on (10 F. R. 11943, 20 September 1945).



# Waiver

## TITLE 46—SHIPPING

### Chapter I—Coast Guard: Inspection and Navigation

Appendix A—Waivers of Navigation and Vessel  
Inspection Laws and Regulations

#### CONDITIONAL WAIVER OF MANNING REQUIREMENTS

Pursuant to the authority vested in me by the order of the Acting Secretary of the Navy dated 1 October 1942, 7 F. R. 7979, as amended by order of the Secretary of the Navy dated 5 June 1945, 10 F. R. 6848, the order of the Commandant conditionally waiving manning requirements dated 8 April 1943, 8 F. R. 4736, is hereby amended by making such waiver inapplicable to all ocean and coastwise passenger vessels and all vessels carrying troops. This amendment shall be effective immediately.

Dated: 30 August 1945.

L. T. CHALKER,  
Rear Admiral, U. S. Coast Guard,  
Acting Commandant.

(10 F. R. 11251, 1 September 1945.)

## Navigation and Vessel Inspection Circulars No. 61

### First-Aid Kits; Directions for Use of Sulfadiazine Tablets

UNITED STATES COAST GUARD,  
Washington 25, D. C.  
21 August 1945.

1. At a recent meeting of the Merchant Marine Council, the directions for use of sulfadiazine tablets were changed to read as follows:

"For severe injury or burn, 4 tablets should be given as a single dose. No more sulfadiazine tablets should be given."

2. The directions in all new first aid kits, those in the hands of ship chandlers, those in lifeboats and life rafts on board vessels, and those in shipyards, shall be changed in accordance with the above.

(Signed) L. T. CHALKER,  
Acting Commandant.

# No. 62

## Rescission of Navigation and Vessel Inspection Circular No. 55

UNITED STATES COAST GUARD,  
Washington 25, D. C.,  
1 September, 1945.

Since the rationing of gasoline has been discontinued, Navigation and Vessel Inspection Circular No. 55 dated 6 January 1945 wherein Coast Guard officers, or masters of American flag vessels, acting as shipping commissioners, were instructed to furnish to each seaman holding a continuous discharge book, at the time of his discharge a copy of Form 718-E, Record of Entry in Continuous Discharge Book, is hereby rescinded.

(Signed) L. T. CHALKER,  
Assistant Commandant.

## Equipment Approved By the Commandant

### LIFEBOATS

22' x 7'6" x 3'2" metallic motor lifeboat (28-person peacetime capacity, 19-person wartime capacity) (General Arrangement Dwg. No. M-1025-A, dated 23 March, 1944), submitted by Imperial Lifeboat and Davit Co., Inc., Athens, New York.

22' x 7'6" x 3'2" metallic oar-propelled lifeboat (31-person peacetime capacity, 20-person wartime capacity) (General Arrangement Dwg. No. 1024-A, dated 23 March, 1944), submitted by Imperial Lifeboat and Davit Co., Inc., Athens, New York (10 F. R. 11099, 29 August 1945).

### LIFE PRESERVER

Model No. 2, adult kapok life preserver, recovered by Sinclair and Valentine Company, 611 West 129th Street, New York 27, New York (10 F. R. 12031, 21 September 1945).

### TELEPHONE SYSTEMS

Sound powered telephone, Type A, Model W, splashproof, Dwg. No. 1, Alt. 2; Sound powered telephone, Type A, Model E, splashproof, Dwg. No. 3, Alt. 2; Sound powered telephone, Type A, Model E, splashproof, Dwg. No. 4, Alt. 2; Sound powered telephone, Type A, Model W. T., watertight, bulkhead mounted, with external 3" Bell, Dwg. No. 5, Alt. 2; Sound powered telephone, Type A, Model W. T., watertight, bulkhead mounted, with external 6" Bell, Dwg. No. 6, Alt. 2; Sound powered telephone, Type A, Model W. T. P., watertight, pedestal mounting, with external 6", 8", or 10" Bell, Dwg. No. 8, Alt. 2; Sound powered telephone, Type A, Model W. T.-1,

watertight, bulkhead mounted, with external 6" Bell, Dwg. No. 11, Alt. 2; submitted by Hose-McCann Telephone Co., Inc., 172 Pacific Street, Brooklyn, New York. (Supersedes approvals of 8 August, 1944, 9 F. R. 9622, and 9 January, 1945, 10 F. R. 403. Any equipment manufactured under the prior approvals may remain in use until replacements are necessary) (10 F. R. 11693, 12 September 1945).

### WITHDRAWAL OF APPROVAL

Coast Guard approval of the following items of equipment is withdrawn:

#### FIRING ATTACHMENTS FOR LINE-THROWING GUNS

Firing attachment for line-throwing gun, Model VK-L3 (Dwg. No. F 325, dated 2 April, 1944), submitted by Van Karner Chemical Arms Corp., 202 East 44th Street, New York (Approved 9 F. R. 4126, 18 April 1944).

Firing attachment for line-throwing gun, designated VK-M24 (Dwg. No. VK-M24, dated 10 April 1945), submitted by Van Karner Chemical Arms Corp., 202 East 44th Street, New York 17, N. Y. (Approved 10 F. R. 5569, 15 May 1945).

Croton Cartridge Firing Attachment, Model A (Dwg. No. 013, dated 17 April 1944), submitted by Hawley Smith Machinery Company, Croton Falls, N. Y. (Approved 9 F. R. 4825, 6 May 1944).

Firing attachment for Lyle gun (Dwg. No. F-100, dated 15 March 1944), submitted by the Naval Company, 3419 Richmond Street, Philadelphia, Pa. (Approved 9 F. R. 7119, 27 June 1944).

Firing attachment for line-throwing gun, Type F-101 (Dwg. No. F-101-A, dated 19 January 1945), submitted by the Naval Company, 3419 Richmond Street, Philadelphia, Pa. (Approved 10 F. R. 1582, 6 February 1945).

Firing attachment for line-throwing gun, Model A (Dwg. No. F-101, dated 21 April 1945), submitted by Edward Samara Inc., 37 South Street, New York, N. Y. (Approved 10 F. R. 8331, 5 July 1945).

Dated: September 6, 1945.

L. T. CHALKER,  
Rear Admiral, U. S. C. G.,  
Acting Commandant.

(10 F. R. 11549, 8 September 1945.)

### CERTIFICATION OF ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of ships' stores and supplies certificated for use on board vessels in accordance with the provisions of Part 147 of the regulations governing explosives or other dangerous articles on board vessels, are as follows:

E-1580, Shell Oil Co., Inc., Suite 1120, Shoreham Building, Washington 5, D. C. Certification No. 186, 14 September 1945.

E-1581, Shell Oil Co., Inc., Suite 1120, Shoreham Building, Washington 5, D. C. Certification No. 187, 14 September 1945.

## AFFIDAVITS

It is required by the Marine Engineering Regulations that manufacturers submit affidavits before they manufacture items of equipment in accordance with these regulations for use on vessels subject to inspection by the Coast Guard. These affidavits are kept on file at Coast Guard Headquarters and a list of approved manufacturers is published for the information of all parties concerned. The

affidavits received and accepted during the period from 16 August 1945, to 15 September 1945, are as follows:

*Jakobson Shipyards, Inc.*, Oyster Bay, N. Y., valves and fittings.

*General Engineering & Dry Dock Co.*, 1100 Sansome Street, San Francisco 19, Calif., flanges and bolting material.

## ITEMS SUITABLE FOR MERCHANT MARINE USE

### ACCEPTABLE FUSIBLE PLUGS

The Marine Engineering Regulations require that fusible plug manufacturers who desire to have their products approved for marine service shall submit samples for testing from each heat to the Commandant. If the sample fusible plugs pass the test

satisfactorily, the manufacturer is notified and then the plugs may be used on vessels subject to inspection by the Coast Guard. If the sample fusible plugs submitted do not pass the test, a fee of \$20 for each sample submitted is required and must be paid to the National Bureau of Standards, Washington, D. C. For the information of all parties concerned, a list of approved heats which have been tested and found acceptable during the period from 16 August 1945, to 15 September 1945, is as follows:

*The Lunkenheimer Co.*, Cincinnati 14, Ohio, heat No. 216.

*H. B. Sherman Manufacturing Co.*, Battle Creek, Mich., heat Nos. 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 528, 529, 530, 531, 532, 533, 534, 535.

## ELECTRICAL APPLIANCES

The following list supplements that published by the United States Coast Guard under date of 15 May 1943, entitled "Miscellaneous Electrical Equipment Satisfactory for Use on Merchant Vessels," as well as subsequently published lists, and is for the use of Coast Guard personnel in their work of inspecting merchant vessels. Other electrical items not contained in this pamphlet and subsequent listings may also be satisfactory for marine use but should not be so considered until the item is examined and listed by Coast Guard headquarters. Before listings of electrical appliances are made, it is necessary for the manufacturer to submit to the Commandant (EMM), United States Coast Guard, Washington 25, D. C., duplicate copies of a detail assembly drawing, including a material list with finishes of each corrosive part, of each item. An examination of the drawings submitted will be made and, if necessary, tests conducted on such appliances to determine their suitability for marine use.

Manufacturer and description of equipment	Location apparatus may be used				Date of action
	a	b	c	d	
Bendix Aviation Corp., Brooklyn, N. Y.: Shaft Revolution Equipment: Indicator, drawing No. CAL-5706-C, alteration D.	x	x			8-20-45
Transmitter, drawing No. CAL-75708-6 alteration F.	x	x			8-20-45
Conlan Electric Corp., Brooklyn, N. Y.: Lighting fixtures, deck type, waterproof: Type CG, with guard, globe, and dome reflector, 60 watts maximum, catalog Nos. 107-1045/12"-1046, revision 0.	x	x	x		9-8-45
Type CG, with guard, globe and dome reflector, 60 watts maximum, catalog Nos. 107-1047/12"-1048, revision 0.	x	x	x		9-8-45
Type CG, with guard, globe and shallow dome reflector, 60 watts maximum, catalog Nos. 107-1049/12"-1050, revision 0.	x	x	x		9-8-45
Type CG, with guard, globe and shallow dome reflector, 60 watts maximum, catalog No. 107-1051/12"-1052, revision 0.	x	x	x		9-8-45
Edwards & Co., Inc., Norwalk, Conn.: Push button, interior communication, catalog No. 850, drawing No. 5613NN, alteration 1.	x	x	x		9-5-45
Henshel Corp., Amesbury, Mass.: Running light panels, 115 volts, direct current, drawings Nos. 40-010, alteration 20, and 40-010-1, alteration 11.	x	x			9-12-45
Lovell-Dressel Co., Inc., Arlington, N. J.: Single pole switch and pilot light, 10 amperes, 250 volts, waterproof, drawing No. 2794, alteration 0.	x	x	x		8-24-45

- a. Passenger and crew quarters and public spaces.  
b. Machinery, cargo, and work spaces.  
c. Open decks.  
d. Pump rooms of tank vessels.

Manufacturer and description of equipment	Location apparatus may be used				Date of action
	a	b	c	d	
Russell & Stoll Co., Inc., New York, N. Y.: Receptacle, angle type, waterproof, 250 volts, direct current, and 440 volts, alternating current, drawing No. B-6302, alteration 2.	x	x			8-24-45
Catalog No. 3302, 2-wire, 2-pole, 15 amperes.					
Catalog No. 3303, 2-wire, 3-pole, 15 amperes.					
Catalog No. 3304, 3-wire, 4-pole, 15 amperes.					
Catalog No. 3312, 2-wire, 2-pole, 30 amperes.					
Catalog No. 3313, 2-wire, 3-pole, 30 amperes.					
Catalog No. 3314, 3-wire, 4-pole, 30 amperes.					
Receptacle, straight type, waterproof, 250 volts, direct current, and 440 volts, alternating current, drawing No. B-6718, alteration 1.	x	x			8-24-45
Catalog No. 3302RA, 2-wire, 2-pole, 15 amperes.					
Catalog No. 3303RA, 2-wire, 3-pole, 15 amperes.					
Catalog No. 3304RA, 3-wire, 4-pole, 15 amperes.					
Catalog No. 3312RA, 2-wire, 2-pole, 30 amperes.					
Catalog No. 3313RA, 2-wire, 3-pole, 30 amperes.					
Catalog No. 3314RA, 3-wire, 4-pole, 30 amperes.					
Plug, 250 volts, direct current, and 440 volts, alternating current, drawing No. F-8614, alteration 7.	x	x			8-24-45
Catalog No. 3306, 2-wire, 2-pole, 15 amperes.					
Catalog No. 3307, 2-wire, 3-pole, 15 amperes.					
Catalog No. 3308, 3-wire, 4-pole, 15 amperes.					
Catalog No. 3316, 2-wire, 2-pole, 30 amperes.					
Catalog No. 3317, 2-wire, 3-pole, 30 amperes.					
Catalog No. 3318, 3-wire, 4-pole, 30 amperes.					
Hand portable lighting fixtures, waterproof, 100 watts maximum, catalog Nos. 1421-B and 1422B, drawing No. F-6922, alteration 1, for use with 3-wire portable cord and in conjunction with 3-wire, 2-pole grounded receptacle outlet.	x	x	x		8-27-45
Plug assembly, 15 amperes, 600 volts, alternating current, drawing No. F-6872, alteration 8.					8-30-45
Fuse box, 30 amperes, 2-pole, waterproof, catalog No. 1247, drawing No. F-6863, alteration 10.	x	x	x		8-30-45

# Merchant Marine Personnel Statistics

## MERCHANT MARINE LICENSES ISSUED DURING AUGUST 1945

### DECK OFFICERS

Region	Master										Chief mate										Second mate									
	Ocean		Coast-wise		Great Lakes		B. S. & L.		Rivers		Ocean		Coast-wise		Great Lakes		B. S. & L.		Rivers		Ocean		Coast-wise		Great Lakes		B. S. & L.		Rivers	
	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R
Atlantic coast	26	37	3	9			9	26	4	79	8					3				186	5		1							
Gulf coast	6	15	1	1			5	1	3	10	4									43										
Great Lakes and rivers	2				6			2	3									4	4		2									
Pacific coast	15	44		2			4	6		44	4					5	1			112	4							1		
Total	47	98	4	12		6	13	37	3	10	130	16				5	4	4	4	341	11		1					1		

Region	Third mate										Pilots						Master mate				Total		
	Ocean		Coast-wise		Great Lakes		B. S. & L.		Rivers		Great Lakes		B. S. & L.		Rivers		Uninspected vessels, high seas				Original	Re-newal	Grand total
	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R			
Atlantic coast	261	6											32	70			3		1		600	169	769
Gulf coast	17	2											15	25							93	55	148
Great Lakes and rivers													8	16	15	4					29	37	66
Pacific coast	117												10	47			1	4	1		306	113	419
Total	395	8											65	158	15	4	4	4	2		1,028	374	1,402

### ENGINEER OFFICERS

Region	Chief engineer, steam				First assistant engineer, steam				Second assistant engineer, steam				Third assistant engineer, steam			
	Ocean		Inland		Ocean		Inland		Ocean		Inland		Ocean		Inland	
	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R
Atlantic coast	54	53	7	23	111	19	2	4	223	20		1	273	10		
Gulf coast	17	18	2	5	18	6		3	35	4			17	6		1
Great Lakes and rivers	2	9	2	17	2	3	1	12	4	1	1	5	2	3		1
Pacific coast	35	37		7	52	11		2	93	9			125	3		
Total	108	117	11	52	183	39	3	21	355	34	1	6	417	22		2

Region	Motor vessels								Uninspected vessels				Totals		
	Chief engineer		First assistant engineer		Second assistant engineer		Third assistant engineer		Chief engineer		Assistant engineer		Original	Re-newal	Grand total
	O	R	O	R	O	R	O	R	O	R	O	R			
Atlantic coast	16	43	4	8	8	3	207	4			2		905	190	1,095
Gulf coast	7	10	3	7	1	1	7	1					107	62	169
Great Lakes and rivers		13	1	7	1	1	1	1					17	73	90
Pacific coast	4	16	3	7	6	1	105	2	1	4			424	99	523
Total	27	82	11	29	16	6	320	8	1	6			1,453	424	1,877



# ORIGINAL SEAMEN'S DOCUMENTS ISSUED, MONTH OF AUGUST 1945

Region	Continuous discharge book	Certificate of identity	A. B., green, 3 years <sup>1</sup>	A. B., green, 9 months emergency <sup>1</sup>	A. B., blue, 18 months, 12 months <sup>1</sup>	A. B., blue, 6 months emergency <sup>2</sup>	A. B., blue, 6 months emergency <sup>3</sup>	Lifeboat, 12-24 months <sup>4</sup>	Lifeboat 6-12 months emergency <sup>5</sup>	Q.M.E.D., 6 months	Q.M.E.D., emergency	Radio operators	Certificate of service	Tanker man	Staff officer	Total
Atlantic coast	111	5,419	53	288	59	24	0	876	0	201	377	143	4,998	8	195	12,752
Gulf coast	208	1,636	8	61	7	0	1	1,004	0	49	218	1	1,561	21	16	4,791
Pacific coast	6	2,684	22	131	46	0	0	1,226	0	117	342	5	2,333	2	104	7,018
Great Lakes and rivers	1,764	318	10	18	20	13	0	43	0	32	70	1	2,152	5	6	4,452
Total	2,089	10,057	93	498	132	37	1	3,149	0	399	1,007	150	11,044	36	321	29,013

<sup>1</sup> Unlimited.

<sup>2</sup> Great Lakes, lakes, bays, and sounds.

<sup>3</sup> Tugs and towboats and freight vessels under 500 tons (miscellaneous).

<sup>4</sup> 12 months deck or 24 months other departments.

NOTE.—There were 173 Panamanian Employment Cards issued.

## WAIVERS OF MANNING REQUIREMENTS FROM 1 AUGUST TO 31 AUGUST 1945

Authority for These Waivers Contained in Navigation and Vessel Inspection Circular No. 31, Dated 13 March 1943

Region	Number of vessels	Deck officers substituted for higher ratings	Engineer officers substituted for higher ratings	Able seamen substituted for deck officers	Ordinary seamen substituted for able seamen	Qualified members of engine department substituted for engineers officers	Wipers or coal passers substituted for qualified members of engine department	Wipers, coal passers or cadets substituted for engineer officers	Ordinary seamen or cadets substituted for deck officers	Total
Atlantic coast	499	92	227	10	957	10	272	3	11	1,582
Gulf coast	149	45	70	9	312	11	54	2	7	510
Pacific coast	415	150	259	35	1,128	84	413	9	29	2,107
Great Lakes	223	7	7	7	545	155	155	155	707	707
Total	1,286	287	563	54	2,942	105	894	14	47	4,906

## CREW SHORTAGE REPORTS FROM 1 AUGUST TO 31 AUGUST 1945

These Reports Submitted in Accordance With Navigation and Vessel Inspection Circular No. 34, Dated 1 May 1943

Region	Number of vessels	Ratings in which shortages occurred												Total
		Chief mate	Second mate	Third mate	Radio	Able seamen	Ordinary seamen	Chief engineer	First engineer	Second engineer	Third engineer	Qualified member engine department	Wiper or coal passer	
Atlantic coast	25			1		8	10	5				12	3	39
Gulf coast	27	1	1		3	15	7	1		1	1	20	9	59
Pacific coast	13			1	10	1				2	2	2	2	20
Great Lakes	173		3	4		91	27		6	5	22	183	61	402
Total	238	1	4	6	13	115	44	6	7	8	24	217	75	520

# TIPS FOR TANKERS

## 5 When discharging cargo



**A.** Be certain that pump room sea valves **AND ESPECIALLY STERN DISCHARGE VALVES** [if fitted and not in use] are securely closed and lashed. Inspect stern discharge valves [if any] when discharging starts and after full working pressure has been reached.

**B.** Start cargo pumps slowly.

**C.** Observe cargo hose frequently to be certain it is properly supported and that it does not get between ship and dock.

**D.** Increase pump speed [or discharge rate] to build up working pressure slowly.

**E.** During the discharging operation observe, from time to time, the cargo system operating pressure and the cargo hose and its connections for possible leakage.

**F.** Observe conditions in the pump room at frequent intervals.

**G.** Be prepared to **STOP DISCHARGING** on short notice from the dock.

**H.** Keep drip pans under hose connections and when discharging is completed and hose is disconnected take the necessary precautions to see that hose [if part of ship's equipment] does not drain into harbor.