PROCEEDINGS OF THE

# MERCHANT MARINE COUNCIL

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*Proceedings of the*

# MERCHANT MARINE COUNCIL

Published monthly at Coast Guard Headquarters, under the auspices of the Merchant Marine Council, in the interest of safety at sea and the prosecution of the war effort.

VICE ADMIRAL R. R. WAESCHE
U. S. C. G.
Commandant of the Coast Guard



## Contents



The Cover: Cargo vessel coming in to shelter of Normandy breakwater of 23 strategically sunken freighters.

## Activities of The Council

DURING the month of November the Council recommended to the Commandant, as a result of a meeting of the tugboat operators of the Gulf Intracoastal Waterway, that compliance with 46 CFR 31.4–2 (Tank Vessels) be waived in respect to vessels engaged in business connected with the conduct of the war and operating on the Intracoastal Waterway and rivers and inland waters connected therewith within the limits of the Seventh and Eighth Naval Districts. The regulations, as they stand, provide that towing vessels while towing unmanned tank barges shall carry a sufficient complement to provide at least one licensed officer or certificated tankerman for each watch. After conference and investigation it was determined that the principal dangers involved in these towing operations arose at the points of loading and discharge. Therefore, under the waiver, it is only required that the towing vessel have one licensed officer or certificated tankerman on board to assure safety at terminal points.

The law and Coast Guard regulations issued thereunder require the master of vessels under registry to obtain from the Collector of Customs a certification of crew list Form 710A and his shipping articles. Since practically all necessary information is contained upon the shipping articles and as the certification of these articles by the Collector of Customs serves no useful purpose, any vessel which has either shipped its crew before a shipping commissioner or has reported the engagement of its crew on Form 735T is not required to have any other crew list or to have shipping articles certificated by the Collector of Customs. However, in the case of any vessel sailing foreign, the master is required to produce his shipping articles for any consul of the United States who may require it.

As a result of representations made to the Council by the western rivers panel, the administrative procedure for the handling of violations of the Navigation Laws involving criminal penalties has been modified insofar as those statutes which are administered by the Coast Guard are concerned. This procedure does not apply to violations of criminal statutes, such for example as the Oil Pollution Act, for the administration of which some other agency has the responsibility and in whose enforcement the Coast Guard is merely the agent of such other body. The new procedure is intended to place in the hands of the District Coast Guard Officer concerned a reasonable degree of discretion before citing a violator to the Department of Justice. Extracts of Marine Inspection Memorandum No. 79 setting forth this procedure will be found in the Appendix.

Mr. C. G. Wennerstrom of the Modern Boat and Engineering Co. appeared before the Council to present for its consideration a new type of gravity lifeboat davit, for which was claimed the advantage of operability under a 30° list either way as well as the ability to care for extremely full-ended lifeboats. The design was referred to the Technical Division for further examination.

Mr. B. R. Freudenthal, representing the Chemical Service Co., appeared before the Council to describe in detail the corrosion resistant coating proposed for lifeboat ration and water containers. Mr. Freudenthal's argument was that this coating was at least the equivalent in protection of the lacquer and wax coating required in

Coast Guard specifications. The proposal was referred to the Research and Development Division for recommendation.

In the previous issue of the PROCEEDINGS reference was made to the fact that the Merchant Marine Council was giving serious consideration to a return to pre-war requirements as to lengths of service for the securing of licenses, particularly in the senior grades. Upon the basis of facts presented by the War Shipping Administration, it was decided that, although desirable, such step could not be taken under present circumstances without adversely affecting the war effort and the proposal was accordingly tabled.

Various amendments of subchapter F (Marine Engineering and Material Specifications) were passed upon and will be found in the Appendix. These are principally editorial in nature. Approvals and withdrawals of approval of safety equipment were also passed upon.

# Fire Tests on CGB 49

AS previously noted in the PROCEEDINGS, the War Shipping Administration has turned over to the Coast Guard the hull of a damaged Liberty ship, the *Gaspar de Portola*, for experimental purposes. This hull, now known as CGB 49, is moored at the Coast Guard Training Station, Fort McHenry, Baltimore. This station was established to give specialized training in fire and damage control on shipboard and in waterfront structures. The provision of an actual ship hull has permitted the training station personnel to engage in exhaustive tests of fire fighting and control under service conditions and the opportunity is being fully used.

To date six specific tests have been made, each one designed to furnish the best solution to a fire problem arising out of a predetermined situation. Data from each test are carefully compiled and analyzed and become the basis for further experimentation. This is probably the only full-scale laboratory for the investigation of the special risks existing in shipboard fires where bunker oil constitutes a special hazard, and where the buoyancy and stability limits of the ship preclude the use of unlimited amounts of water.

Especial reliance is placed, at Fort McHenry, upon the use of fog nozzles in lieu of direct, high-pressure streams, both to avoid the excessive—and frequently ineffective—use of quantities of water, and to offer a temperature shield to fire fighting personnel. One of the major contributions of the school has been the confidence that it has given to fire parties of their ability to approach behind a fog nozzle to close proximity of a raging fire. A basic part of the training is to teach those concerned that, however bad a fire looks, it can be conquered by coolness, know-how, and the use of proper equipment.

The initial trials on CGB 49 were to test extinguishment methods in comparatively small boiler room fires. The boiler foundations were converted into tanks and filled with fuel oil which was ignited and the resultant fires extinguished under varying conditions. In subsequent tests the conditions were set up to simulate a major fire in the engine room under the floor plates, with fuel oil completely covering the tank top from bilge to bilge.

On the basis of tests already held, certain general conclusions can be reached. Outstanding among these is the effect of shutting off all air intakes to the machinery spaces while the casing about the hot stack acts as an exhaust for gases of combustion. This involves covering all ventilators, fidleys, and skylights and closing storeroom and other doors into the upper machinery spaces. For a minor fire this action alone was sufficient to extinguish the blaze before the metalwork became so hot as to produce re-ignition upon entering the space.

The value of carbon dioxide as an extinguishing agent was found to depend largely upon the promptness with which it was released. If the blaze had already heated up the surrounding steel to a marked degree, the rise in temperature imparted to the $CO_2$ kept it from settling and much of its effectiveness was lost, as well as much of the gas being carried up the stack.

In a minor fire, particularly when reduced by lack of air, a fire party equipped with a fog nozzle can enter the machinery space from the shaft alley with complete impunity and without the use of respirators. The shaft alley approach would seem by far the preferable avenue for personnel actually entering the machinery spaces.

In the case of a major fire the insertion of a fog nozzle into the engine room skylight under the tarpaulin and the lowering of the nozzle down about 15 feet gave excellent results even in advance of the use of other nozzles manually carried. The mist from the nozzle was apparently carried to the base of the flame by convection currents and there turned into steam, which not only tended to extinguish the fire but was exhausted up the stack casing and so reduced the actual amount of water remaining in the ship. In one test, where 5,000 gallons of fuel oil were on fire under the engine room floor plates, the fire was completely extinguished by 7,000 gallons of water, or approximately thirty tons. This amount of water would not have created any serious buoyancy or stability problem, even

CGB 49 at the height of fire test.

Commander Lloyd Layman explains to visiting underwriters' representatives the purpose of the test.

at the worst. Actually, however, at the conclusion of the test the extra water found in the engine room was not over 2,500 gallons, the balance having gone up the casing as steam.

The use of CGB 49 as an experimental fire laboratory is being watched with interest by fire and marine underwriters and by marine fire departments. Future tests will include various cargo fires as well as tests of bulkhead materials.

## Lifeboat Radio Test

IN TIME of peace every merchant vessel is required to carry sufficient lifeboats to afford place for all of its passengers and crew. In the case of cargo ships full boatage must be provided on either side. In time of war boats are supplemented by life rafts, which can be skid-launched, and which will serve in some measure as a substitute for boats damaged or immobilized. Both lifeboats and the improved-type life rafts have been equipped to provide the highest possible survival and rescue expectation, by large increases in food and water and by increasing the required lifeboat buoyancy per occupant.

But even when all personnel of an abandoned ship have been safely seated in lifeboats and the boats are away from the ship, the eventual rescue of these personnel is only in its first stage. They still must be transported to land before their resources are exhausted. This may be done in one of two ways; either they may make their way to safety in their boats or rafts, or they may be picked up by some rescue vessel intentionally or accidentally coming upon them.

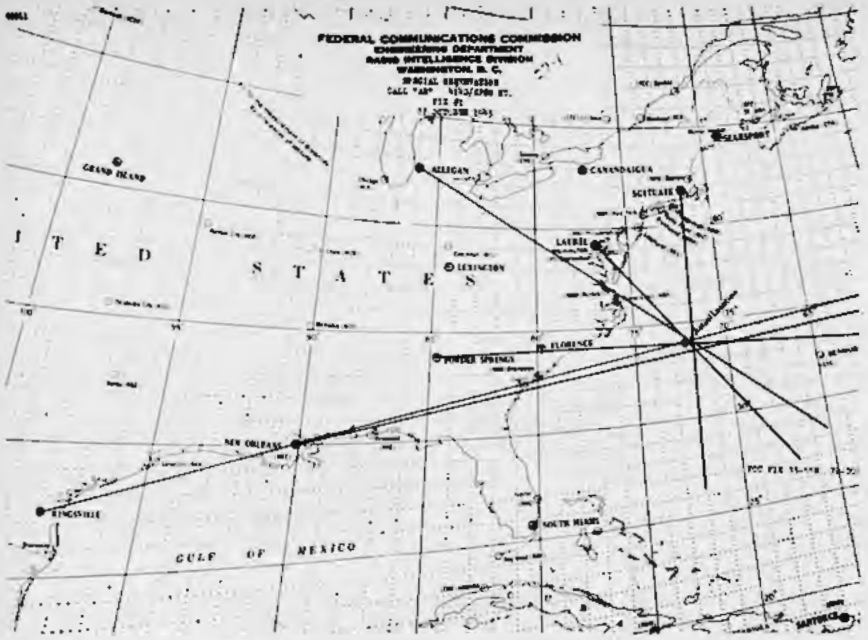
A merchant ship lifeboat, with a capacity load, is not the most efficient sailing craft. A moderate sea will set it to leeward and in a rough sea it must lie to. A raft, of course, even of the improved type, is much worse and will only sail broad before the wind. Navigational equipment is necessarily limited and compasses erratic. Although many cases have occurred where boats and even rafts have made their way to land after long periods of exposure, luck played a large part in most such cases, and we have no records of the numbers of boats or rafts which did not reach safety. Therefore, though every effort is made to give flotation equipment the maximum possible mobility, self-rescue efforts are considered to be definitely secondary to the effective provision for early rescue by other craft.

The first requisite of such rescue is the accurate location of the boats or rafts, in order that adequate rescue equipment may be directed to them. At present boats and rafts carry signal flags, orange-colored sails, daylight smoke signals, parachute flares, distress signals, and signalling mirrors. These, however, are only of value for attracting the attention of someone already within visual range, which is necessarily short. For longer range use each cargo ship is required to carry a portable battery-powered transmitter, capable of working on 500 kilocycles, which is to be placed in one of the lifeboats before launching, and which uses an antenna wrapped around a sprit for the mast. Transoceanic planes were equipped with a hand-operated automatic transmitter of the so-called "Gibson Girl" type. The provision of radio transmission greatly increased the range within which the distressed boats could attract attention.

But these boat or raft transmitters have very definite limitations due to being restricted to the 500-kilocycle band. This frequency is subject to serious interference by static, particularly in the tropics, and even under best conditions the sets will have a maximum range of not over 300 miles. The gain from this radio, while relatively great compared with visual signals, is still small in proportion to the areas of the oceans. The value of the 500 kilocycle frequency is that most seagoing ships are equipped with direction finders tuned to that wave and are therefore capable of locating a boat by its signals.

A high-frequency transmitter, by creating a long-distance sky wave, will give good signals over an area beginning about 300 miles from the set and extending up to 1,500–2,500 miles, depending upon conditions, but its ground wave will be inferior to that on 500 kilocycles. Further, the range of high-frequency transmitters will vary under day and night conditions for different frequencies. To insure complete coverage at all times without "skip" two differing high frequency bands must be used. With such equipment a boat's signals could be picked up at long ranges by shore direction finders and an area of position established, but since few ships or aircraft have high frequency direction finders, search craft could not make use of these signals.

Modified SCR–578 transmitter.




Lines of bearing on PC 619 reported by Federal Communications Commission Radio Intelligence Division.

To meet the situation Coast Guard communications personnel took a standard SCR–578 transmitter (the Gibson Girl) and modified it so that in addition to transmitting SOS on 500 kilocycles it alternately and automatically broadcast on 4140 and 8280 kilocycles. These three bands practically insure coverage, both day and night, of the complete circle centered at the transmitter and extending as far as 2,500 miles. The modification involved no changes in weight or size of the instrument.

To test the efficacy of this equipment for its purpose the set was taken aboard a P. C. boat to a point about 200 miles southeast of Cape Hatteras. A 280-foot wire antenna was sent up by means of a kite and the transmitter cranked for half an hour, with thereafter signals sent for 10 minutes every half hour. These signals were picked up by the Radio Intelligence Division of the Federal Communications Division through its excellent domestic network of high-frequency direction finder monitoring stations. They were teletyped to the plotting room of the Federal Communications Commission in Washington and the resultant fix was transmitted to the Coast Guard. A total of 69 bearings were taken by 15 different monitoring stations. The distances at which the signals were received and the general accuracy of the intercept is graphically shown on the plotting chart. The Coast Guard received the first plot within 20 minutes after transmission was begun.

Based upon the Coast Guard's experience in the modification of the air-borne radio emergency transmitter SCR–578 (Gibson Girl), the Federal Communications Commission was requested to reconsider its existing technical specifications for merchant marine lifeboat radio installations which are required by Coast Guard Regulations No. 153.23. As a result of this request and after thorough consultation with manufacturers, the Federal Communications Commission issued new specifications in August of this year, effective for all equipment manufactured after 31 October 1944, which will provide merchant marine lifeboat radio installations with a signalling range and operating characteristics similar to that provided by the modified Gibson Girl. Several manufacturers have submitted models to the Commission for approval and orders for several hundred such equipments have been issued by the Maritime Commission.

It is obvious that the provision of an all-purpose hand-operated portable transmitter will be of the utmost value in peacetime as almost guaranteeing that men in a boat or on a raft will not be minute specks on a boundless ocean but will be the center of a radionic circle which will have an effective range, if need be, of thousands of miles.

On telephonic advices as to the approximate location of the signal, a Coast Guard plane took off from the Elizabeth City base for the 280-mile run to the target. Weather conditions were unfavorable and ceiling low. When still about 200 miles off, the plane first began to receive signals on 500 kilocycles, and when 80 miles away was able to take bearings on her automatic direction finder. The P. C. boat could not see the plane until it was about a mile off and headed so accurately for the boat that the kite antenna had to be reeled in. Ceiling at this time was 300 feet and it is unlikely that the plane could have found the boat except by direction finder.

The time log of the test is significant:

| | |
|---|---|
| 0815 | Began transmission on PC–619. |
| 0835 | First fix established, 33–55 N, 72–00 W. |
| 0940 | Second fix established, 34–10 N, 72–00 W. |
| 1025 | Coast Guard plane V–183 sent off. |
| 1118 | V–183 first hears signals. |
| 1228 | Signals strong enough for bearing. |
| 1310 | V–183 on automatic direction finder. |
| 1324 | V–183 sights target. |
| 1328 | V–183 circles target. |

# Hall and Shepheard Promoted

TWO members of the Merchant Marine Council, Captain Norman B. Hall and Captain Halert C. Shepheard, have been promoted to the rank of Commodore.

Commodore Hall, after attending Webb Institute, graduated from the Coast Guard Academy in 1908, and has had a wide variety of duties afloat and ashore since that time, specializing in engineering. He was placed by the Commandant in charge of Port Security when that responsibility was lodged with the Coast Guard by the President, after the *Normandie* fire. Largely due to his prevision and efforts, no serious disaster has occurred upon any facility under Coast Guard supervision.

Commodore Shepheard enlisted in the Naval Reserve in World War I and was released in 1919 as a Lieutenant. After 5 years at sea in ships of various companies, he joined the old Steamboat Inspection Service in 1924 as Assistant Inspector, advancing to Assistant Director in 1935. When the duties of the BMIN were transferred to the Coast Guard he became Chief, Merchant Marine Inspection Division. He has only recently returned from an extended stay in London where he has been conferring with officials of the British Ministry of War Transport in regard to the proposed safety-at-sea conference to be called after the conclusion of hostilities in the European theatre.

# Research and Development Division

IN ORDER to keep abreast of the latest technical developments and particularly those relating to maritime functions, the Commandant has established within the Office of Engineering at Headquarters a Research and Development Division. This division will be responsible for a program that will insure utilization to the fullest extent of any important technical developments, in the various Coast Guard activities, particularly those involving the Merchant Marine.

Commander Gaines A. Tyler, U. S. C. G., has been designated as Chief, Research and Development Division. Commander Tyler graduated from the Coast Guard Academy in 1926 at the head of his class. After 6 years sea duty, he took a post-graduate course in engineering at the Naval Academy and at the University of California, receiving a master's degree in science. He served as instructor in engineering at the Coast Guard Academy and, before assuming his present duties, spent 2 years at Duluth as inspector of shipbuilding.

This division will initiate and develop research projects, studies, and experiments, which will be carried out by the Coast Guard, other Government agencies, and private facilities. It will review and coordinate all research and developmental projects proposed within the Coast Guard in order to obviate duplication of projects, to establish any necessary priorities among those projects, and to make sure that the project is so defined that maximum results will be obtained. This work will necessitate close and constant liaison with the maritime industry and with the various offices at Headquarters, particularly the Merchant Marine Council and other appropriate Coast Guard units, in order to obtain information regarding Coast Guard and Merchant Marine experience with, and the need for material, equipment, and devices and to secure advice regarding the practicability of any proposals regarding such items. In addition, liaison has been established with governmental and private agencies such as the Bureau of Standards, the Naval Research Laboratory, Carnegie Institute, Mellon Institute, and other developmental activities, in order to be familiar with those aspects of their work which may be of interest to the Coast Guard and in order to obtain their cooperation in carrying out any projects initiated.

Some of the projects currently under study by this division are the following:

- Service tests of improved type life rafts, including subjection to fire and machine-gunning, to determine advantages and limitations of each type.
- Development, for military personnel only, of a superior life float.
- Study of an extremely full-bodied lifeboat to obtain maximum buoyancy and comfort, with least loss of seaworthiness.
- Investigation, with other interested agencies, of effective buoyant material as a substitute for Kapok.
- Development of a special testing apparatus for life jackets and buoyant materials to accelerate tests and to give results in certain directions not now obtainable.

All maritime safety projects are considered in the light of their postwar use as well as their wartime employment, wherever this is practicable.

# Commander Kerrins Appointed Executive Secretary

COMMANDER Joseph A. Kerrins, U. S. C. G., has been assigned to duty as executive secretary of the Merchant Marine Council. Born 21 May 1906, he is a native of Everett, Mass., attended the Everett public schools and graduated from the Coast Guard Academy with the class of 1927. His brother officers particularly recall his rugged play at end on the Academy football teams of 1924–1927.

Commander Kerrins is thoroughly conversant with Merchant Marine affairs, both in the United States and in war theaters. During 1941 and part of 1942 he served as Executive Officer on the American Sailor, a Maritime Service training vessel. In 1942 he was assigned to duty as Commanding Officer of the Coast Guard Cutter *Mojave* where he performed escort duty between Newfoundland and Greenland. During the past 14 months Commander Kerrins has served as the Senior Coast Guard Officer in charge of all merchant marine hearing units in the Mediterranean theater, where he had headquarters at Algiers and subsequently at Naples.

Between 1927 and 1936 Commander Kerrins performed duty upon destroyers and upon the Coast Guard Cutters *Seneca*, *Gresham*, *Tuscarora*, and *Apache*. During a tour of duty at Coast Guard Headquarters, 1936 to 1939, he received an LL. B. degree at the George Washington University and became a member of the District of Columbia Bar. He was subsequently assigned to the Coast Guard Academy at New London, Conn., as head of the Law Department.

Commander Joseph A. Kerrins.

# Merchant Marine Personnel

DURING November the Commandant issued letters of commendation to the following officers of the vessels noted, for exceptional performance of duty under emergency conditions:

Captain Donald A. Preble, Master S. S. *J. Sterling Morton*.

Mr. James E. O'Brien, Chief Mate S. S. *H. D. Collier*.

Mr. Thomas F. McCarthy, Chief Engineer S. S. *John C. Calhoun*.

Mr. Nicholas Deligianopoulos, First Assistant S. S. *John C. Calhoun*.

Mr. Paul Ergh, Second Assistant S. S. *John C. Calhoun*.

Mr. Charles T. Mahoney, Third Assistant S. S. *John C. Calhoun*.

Mr. Edward J. O'Connor, Third Mate, S. S. *John C. Calhoun*.

Mr. William A. Sullivan, Fireman S. S. *John C. Calhoun*.

Coast Guard Merchant Marine Hearing Units and Details, during the month of October, handled cases involving 294 officers and 2,654 unlicensed men. In the case of officers, 3 were revoked, 41 were suspended, 75 were suspended on probation, 1 was suspended plus suspension on probation, 15 were voluntarily surrendered, 121 were admonitions, and 38 were dismissed. Of the unlicensed personnel, 24 were revoked, 326 were suspended, 712 were suspended on probation, 5 were suspended plus suspension on probation, 339 were voluntarily surrendered, 1,090 were admonitions, and 158 were dismissed.

# Merchant Marine Technical Division

ON 1 November 1944, the Merchant Marine Technical Division was established at Coast Guard Headquarters, under the Office of Engineering and the Engineer in Chief, Rear Admiral Harvey F. Johnson, U. S. C. G. This Technical Division includes the following activities:

Hull Scientific and Equipment Section.
Structural Investigation Section.
Marine Engineering Section.
Electrical Engineering Section.
Ship Sanitation Section.
Load Line Subsection.

This division, therefore, has cognizance of matters relating to the review of plans for new construction and for major repairs, the determination of stability and the administration of the Load Line Acts, as well as the manufacture of equipment requiring approval. The chief of the division is Mr. James R. Harrison and the Assistant Chief is Commander R. A. Smyth, U. S. C. G. R.

The creation of this special division was intended to accomplish two results, first, to permit the fullest utilization of the engineering staff of the Coast Guard on all matters affecting the merchant marine, and second, to simplify and make more direct the handling of construction and equipment problems between the industry and the Coast Guard by setting up a special technical organization to handle all inquiries expeditiously and authoritatively.

The new division, in addition to the Chief and the Assistant Chief, is staffed with the same personnel that made up the component sections when they were under the Office of Operations. No changes in existing field organizations or in the authority and responsibility of the District Coast Guard Officers is brought about by this reallocation of functions.

# Aids to Navigation

In a recent article in *Marine Engineering* on the accomplishments in aids to navigation since the consolidation in 1939 of the former Lighthouse Service with the Coast Guard, Admiral Park, Chief of Operations, stressed the effects of the war on the program. Extracts from his article follow:

"After 2½ years of war, it will be of interest to note the present condition of the United States system of aids to navigation and what has been the effect of the war on this, the largest system maintained by any maritime nation. Figures, better than anything else, will serve to tell the story, and these show:

"1. A total of all aids to navigation of about 33,557 at the end of June this year as compared to totals of 26,660 and 31,006 for the same date in 1936 and 1941, respectively.

"2. Totals of lighted aids, fog signals, and unlighted aids, each showing for the periods stated, numbers that are roughly similar to those mentioned above:

| | July 1, 1936 | July 1, 1941 | July 1, 1944 |
|---|---|---|---|
| Lighted aids | 8,799 | 10,500 | 11,571 |
| Fog signals | 1,626 | 1,816 | 2,058 |
| Unlighted aids | 16,823 | 19,415 | 20,836 |
| Lighted buoys | 1,699 | 2,079 | 2,521 |
| Unlighted buoys | 12,312 | 13,727 | 14,712 |
| Radiobeacons | 116 | 146 | 170 |

"A diversity of growth is indicated throughout all branches of the Service notwithstanding the war period covered. It must be remembered in this connection that, while there has been a curtailment of expansion where not directly essential to the war effort, the war itself has necessitated many increases as in the newly developed channels of the intracoastal waterway, the convoy courses along the coasts, the advanced bases outside the continental limits of the United States and the new channels set up and marked as a safety measure in all principal harbor approaches.

"The war has greatly restricted the usefulness of the system of aids. For considerable periods following the outbreak of the war, large numbers of aids have been blacked out, candlepower reduced, or baffles installed to reduce visibility to aircraft and otherwise avoid rendering a service to the enemy. Radiobeacons have operated under reduced power and in many cases have been off the air altogether for many months, all depending on the military situation in the particular area. The Great Lakes and interior river areas have been little affected except that the traffic served has become more important and voluminous. In these areas, safety measures affecting aids to navigation have been applied hardly at all. Probably the most important change has been the withdrawal of a large group of the more exposed lightships which might serve to aid the enemy substantially or be subject to probable destruction through his activities. The following table shows the extent to which wartime restrictions or other actions have been applied to the groups of aids mentioned:

| | |
|---|---|
| Major lights extinguished | 19 |
| Major lights reduced in candlepower | 91 |
| Lightships removed from stations | 16 |
| Minor lights extinguished | 1,227 |
| Lighted buoys extinguished | 155 |
| Lighted buoys replaced by unlighted buoys | 282 |

"The material equipment of the Service to carry out its function in the field of aids to navigation has not yet suffered greatly as a result of the war and in many cases is far better than ever before. Buoys have been standardized and large numbers acquired, many for special purposes which will later be available for general use. New cutters of the tender class, capable of handling the heaviest buoys, operating under severe ice conditions, and cruising over extended

(Continued on p. 246.)

# LESSONS FROM CASUALTIES

## Standing by the Ship

Over the centuries merchant ship officers have built up an outstanding list of sea traditions, based upon their skill and courage, which equal those of the armed services. Heading the list is the duty and responsibility of the master to exert himself to the utmost, in emergency, to save his passengers, crew, cargo, and ship. From this flows the corollary that, in case it becomes necessary to abandon, the master shall be the last person to leave the vessel. It is regrettable to find instances where, due to the presence of less-qualified, wartime officers, these basic responsibilities are shirked.

A United States merchant vessel was berthed at an outlying base, alongside another similar vessel. She was loaded with war matériel, including high-octane gasoline. Discharg-

ing had been knocked off for the day and the hatches covered. The master, first mate, and second mate were ashore, as were the majority of the unlicensed personnel. At 1945 an explosion occurred in No. 4 hold, probably from gas fumes, which was followed by a serious fire.

As the ship was lying at an Army base, the major work of extinguishing the fire fell to the shore fire department. Nevertheless, there was much to be done on board the vessel. The master returned to the pier shortly after the explosion, but made no effort to board the vessel or direct her own emergency activities. The second mate also shortly returned and concerned himself wholly with the question of a place to sleep. The first mate, attending movies, saw the explosion and fire but decided that it was not his ship. While the burning vessel was being cut adrift from the craft she was moored to, some of the crew members still aboard, lacking leadership, jumped overboard.

In sharp contrast was the conduct of the third mate, in charge of the ship, and of the engineer's force. The latter, led by the chief engineer, proceeded at once to the engine room. The shaft alley door had been warped by the explosion but they managed to get it dogged shut. Free gasoline in the engine room bilges was pumped out, fire pumps given a full head of steam and the department put in the highest state of readiness to assist the fire fighting force and to prevent further damage. Partly as a result of these activities the ship and much of her valuable war cargo were saved.

Admittedly most merchant ships are today carrying cargoes of greater danger potential than is the case in peacetime, and therefore merchant ship officers face abnormal risks compared to those of pre-war days. So do several millions of other American citizens. It is splendid to see good men rise to the occasion and meet the danger as part of the job, and in so doing—as is frequently the case—prove that to resolute officers, skillfully exerting themselves, the danger is far less than it appears.

In this case it was a pleasure to the Commandant to commend the chief engineer, first, second, and third assistants, third mate, and fireman on watch. After due hearing the license of the master was revoked and licenses or certificates of other officers and petty officers were suspended in varying periods.

## Danger Lurks

One of the many unpleasant habits of our enemies in this—and, for that matter, the previous—war is that of leaving behind them various "booby-traps" when forced to abandon territory. These are charges of explosives attached to some object likely to be moved by personnel of the advancing forces, in such manner as to be detonated by movement or investigation. All military personnel are carefully warned against booby traps and cautioned that desirable looking battle souvenirs form one of the most fruitful baits for such infernal machines.

Personnel of the merchant marine do not receive such warnings because they will normally not approach a battlefield or beachhead until expert specialists have cleared it of land mines, booby traps, and similar dangers that have been intentionally strewn in the vicinity by the enemy. But the debris of battle contains many hazardous objects apart from those deliberately created and the amphibious type of warfare makes battlefields out of beaches upon which merchant seamen frequently land. Thoughtlessness, or ignorance of the danger, prompts such seamen to garner as souvenirs, shells or fuses which still contain their explosive charges and which subsequently cause death or injury to the possessor. The Coast Guard's casualty records indicate the frequency of such occurrences, of which a few examples are cited.

On Tinian a party of seamen on shore leave from a United States merchant vessel strolled about in search of items of interest and one man found an unexploded mortar shell. He called to his companions to inspect his find. A passing marine warned him not to handle the shell. At just that moment it exploded, killing the finder, seriously injuring one companion and setting fire to the clothes of the marine.

Near Bizerte a seaman from a tanker found the nose of a German 20 mm. shell and brought it back to his ship. He apparently was endeavoring to disarm the fuse with his knife when it detonated, blowing off part of his right hand and inflicting severe chest wounds. An identical casualty was incurred by a messman on a ship lying in Cherbourg who also indulged in amateur tinkering with a similar nose fuse.

An oiler on another ship at Cherbourg found a whole German shell, brought it on board ship and started to dress it down on the emery wheel. The immediate result was the loss of most of the fingers of his right hand. In still another case the casualty was not even traceable to enemy matériel. A fireman on a ship in the South Pacific tried to cut open a 20 mm. shell, from the ship's own ammunition, with a hacksaw. He lost his right thumb and forefinger and received serious chest wounds in the inevitable explosion.

Even those men merely injured will be seriously handicapped for life by the crippling of their right hands. That is a heavy price to pay for a careless act. There are standing orders in all military areas against bringing live or unexploded ammunition on board ship except as authorized. The foregoing shows part of the reason why. If a battlefield souvenir is not known to be harmless, it should be treated as the gun that "isn't loaded," and let alone.

# APPENDIX

## Amendments to Regulations

### TITLE 33—NAVIGATION AND NAVIGABLE WATERS

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

PART 5—REGULATIONS, UNITED STATES COAST GUARD AUXILIARY

REIMBURSEMENT IN CASE OF CONSTRUCTIVE OR ACTUAL TOTAL LOSS OF VESSEL

Pursuant to the authority contained in Public Law 447 and Public Law 451, 78th Congress, 2d Session, (58 Stat. 756, 759) the Regulations, United States Coast Guard Auxiliary (6 F.R. 1356), as amended, are hereby further amended as follows:

Section 5.5 (e) is amended to read as follows:

§ 5.5 *Reimbursement for operating expense and damage.* * * *

(e) *Action in case of constructive or actual total loss of vessel.* In case of the constructive or actual total loss of a vessel loaned by a Member, the Coast Guard will make payments, subject to the following conditions:

(1) A claim must be filed by the Member on forms to be supplied by the Coast Guard.

(2) The claim must be filed on or before June 30, 1945.

(3) The District Coast Guard Officer, through such board as he may convene, shall consider each claim, and recommend to Coast Guard Headquarters that payment be made, where it is established:

(i) That the vessel was placed by the Member at the disposal of the Coast Guard;

(ii) That the Coast Guard, through a properly authorized person, accepted such vessel;

(iii) That at the time of the loss, the vessel was assigned to Coast Guard duty by the Coast Guard, through a properly authorized person;

(iv) That at the time of the loss, the vessel was in charge of a commisioned officer, chief warrant officer, warrant officer or petty officer of the Coast Guard or the Coast Guard Reserve;

(v) That responsibility for such loss rests with the Coast Guard.

(4) The Commandant through such board as he may convene, shall examine the proceedings and recommendations of the local board, as approved by the District Coast Guard Officer.

(5) The Commandant shall make the final determination of the amount to be paid the Member. (9 F.R. 13593, 14 November 1944.)

## TITLE 46—SHIPPING

## Chapter I—Coast Guard Inspection and Navigation

### Subchapter F—Marine Engineering

### PART 51—MATERIALS

1. Section 51.1–8 is amended to read as follows:

§ 51.1–8 *Test reports.* Inspectors shall report the results of official tests on Form NCG 934. Copies thereof shall be forwarded by the District Coast Guard Officer in the district where the material was manufactured to the District Coast Guard Officer in the district where the material is to be fabricated. (9 F. R. 13501, 10 November 1944.)

2. Section 51.15–14 is amended to read as follows:

§ 51.15–14 *Marking.* Valves, flanges and fittings shall be marked as required by § 55.19–3 (s) of this chapter. (9 F. R. 13501, 10 November 1944.)

3. Part 51 is amended by the addition of a new § 51.17–13 reading as follows:

§ 51.17–13 *Marking.* Valves, flanges and fittings shall be marked as required by § 55.19–3 (s) of this chapter. (9 F. R. 13501, 10 November 1944.)

4. Part 51 is amended by the addition of a new § 51.18–11 reading as follows:

§ 51.18–11 *Marking.* Valves, flanges and fittings shall be marked as required by § 55.19–3 (s) of this chapter. (9 F. R. 13501, 10 November 1944.)

5. Section 51.19–9 is amended to read as follows:

§ 51.19–9 *Marking.* Valves, flanges and fittings shall be marked as required by § 55.19–3 (s) of this chapter. (9 F. R. 13501, 10 November 1944.)

6. Section 51.19–16 *Workmanship and finish* is amended by deleting paragraph (b). (9 F R. 13501, 10 November 1944.)

7. Part 51 is amended by the addition of a new § 51.19–17 reading as follows:

§ 51.19–17 *Marking.* Valves, flanges and fittings shall be marked as required by § 55.19–3 (s) of this chapter. (9 F. R. 13501, 10 November 1944.)

8. Section 51.20–9 is amended to read as follows:

§ 51.20–9 *Marking.* Valves, flanges and fittings shall be marked as required by § 55.19–3 (s) of this chapter. (9 F. R. 13501, 10 November 1944.) (Corrected 9 F. R. 13593, 14 November 1944)

### PART 52—CONSTRUCTION

#### SURFACES REQUIRED TO BE STAYED OR REINFORCED

Section 52.7–3 (a) is amended by changing formula (23) to read as follows:

§ 52.7–3 *Computations.* (a) * * *

(2) * * *

$$P = 2\sqrt{\frac{CT^2}{5W}} \qquad (23)$$

(9 F. R. 13669, 15 November 1944.)

Section 52.13–5 (a) is amended by changing the second sentence thereof to read as follows: "Fittings used in making such connections shall be of forged or cast steel." (9 F. R. 13501, 10 November 1944.)

### PART 55—PIPING SYSTEMS

1. Section 55.19–3 is amended by deleting paragraphs (c), (d), (f), (l), (n) and (p) and substituting the following therefor:

§ 55.19–3 *Detail requirements.* * * *

(c) Seamless drawn steel pipe may be used for all purposes and is required for services defined in §§ 52.13–5 (a) and 55.19–6 (d) of this chapter. (See paragraph (d) of this section.)

(d) Lap-welded steel or iron pipe without diameter limitation or furnace butt-welded steel or iron pipe of not over 2 inches nominal pipe size may be used where the pressure does not exceed 350 pounds per square inch and the temperature does not exceed 450° F. Electric-resistance-welded steel pipe may be used where the pressure does not exceed 350 pounds per square inch and the temperature does not exceed 650° F. (See paragraph (c) of this section.)

NOTE: Where steel or wrought-iron pipe is used for salt water service, it is recommended that it be galvanized or otherwise protected against corrosive action.

* * * * *

(f) Copper pipe fabricated with brazed longitudinal joints is permitted for water and nonsuperheated steam service for pressures not to exceed 75 pounds per square inch.

* * * * *

(l) Malleable iron conforming to the requirements of §§ 51.19–1 to 51.19–16, inclusive, of this chapter, for Grade A material, may be used in the construction of valves and fittings for pressures not to exceed 250 pounds per square inch and temperatures not to exceed 450° F. Grade B malleable iron may be used for pressures not to exceed 125 pounds per square inch, temperatures not to exceed 450° F. and diameters not to exceed 4 inches. Cast iron conforming to the requirements of §§ 51.18–1 to 51.18–10, inclusive, of this chapter may be used in the construction of valves and fittings for pressures not to exceed 125 pounds per square inch and temperatures not to exceed 450° F. All these materials shall meet the requirements for the individual piping systems provided for in this part.

* * * * *

(n) All valves exceeding 2 inches nominal pipe size used for Class I piping shall have flanged ends and bolted bonnets, except as noted in § 55.19–3(w). (For boiler mountings see § 52.15–2(b) of this chapter.) (9 F. R. 13501, 10 November 1944.)

2. Section 55.19–3 (s) is amended to read as follows:

§ 55.19–3 *Detail requirements.* * * *

(s) (1) All steel valves, flanges and fittings shall be legibly marked with the manufacturer's name or registered trademark, and the primary service pressure rating for which he guarantees them.

(2) All cast iron valves, flanges and fittings shall be legibly marked with the manufacturer's name or registered trademark, and in addition all such valves and flanged fittings shall be marked with the primary service pressure rating for which he guarantees them.

(3) All malleable iron valves, flanges and fittings shall be legibly marked with the manufacturer's name or registered trademark and the primary service pressure rating for which he guarantees them except that 150-pound pressure screwed fittings (Federal Specification WW–P–521a) need not carry a service pressure marking.

(4) All bronze valves, flanges, and fittings shall be legibly marked with the manufacturer's name or registered trademark and in addition all such valves and flanged fittings shall be marked with the primary service

pressure rating for which he guarantees them. Bronze screwed fittings may be identified as to pressure class by the type of reinforcing bands at the inlet and outlet. The 125-pound fittings (Federal Specification WW-P-448) have narrow bands widely separated at the fitting crotches. The 250-pound fittings (Federal Specification WW-P-461) have wide heavy bands which meet at and fill the crotches.

(5) Small finished or polished nonferrous products such as trycocks or petcock need not be marked.

(6) Steel valves and fittings shall be tested by their manufacturer to a hydrostatic pressure in accordance with the requirements of Table P-10 and P-11. Bronze, cast iron, or malleable iron valves and fittings for steam service or other services at temperatures exceeding 150° F. shall be tested by their manufacturer to a hydrostatic pressure of not less than 2½ times their steam working pressure. Bronze valves and fittings for high-pressure hydraulic or air service at temperatures not exceeding 150° F. shall be tested by their manufacturer to a hydrostatic pressure of not less than 1½ times their hydraulic or air working pressure. (9 F. R. 13502, 10 November 1944.) (Corrected 9 F. R. 13593, 14 November 1944.)

3. Section 55.19-4 *Computations* is deleted, including Table P-1. (9 F. R. 13502, 10 November 1944).

4. Section 55.19-5 is amended by deleting paragraphs (b) and (h) and substituting the following therefor:

§ 55.19-5 *Installation.* * * *

(b) Reduced pressure lines shall be fitted with efficient reducing valves, pressure gauges and relief valves installed on the low pressure side having sufficient discharge capacity to prevent the pressure exceeding that for which the lines are designed.

* * * * *

(h) Pipe lines may be run through deep tanks or fuel tanks, provided a tunnel is installed. Where a pipe tunnel is installed the watertight integrity of the bulkheads shall be maintained and if the tunnel is not of sufficient size to afford easy access, no valves or fittings shall be located therein. Single pipes, other than steam or exhaust, may be run through such tanks without using a pipe tunnel, where the pipe used is extra heavy, expansion bends are provided and all joints within the tank are welded. (9 F. R. 13502, 10 November 1944.)

5. Section 55.19-6 is amended by deleting paragraph (a), Table P-2 and Note 3 of paragraph (b) and substituting the following therefor:

§ 55.19-6 *Class I piping*—(a) *Scope.* Class I piping shall include all piping as follows:

(1) Operating at pressures exceeding 150 pounds gauge per square inch.

(2) Operating at temperatures of vapors, gases and liquids exceeding the following:

(i) Steam, gas and air—370° F.
(ii) Oil—150° F.
(iii) Water—200° F.

(3) Conveying lethal gases or lethal liquids regardless of pressure or temperature.

(b) *Computations.* * * *

NOTE 3: The value of W in the formula shall not be taken at less than 150 pounds for any condition of service or material.

TABLE P-1—MAXIMUM ALLOWABLE WORKING STRESSES FOR PIPING IN POUNDS PER SQUARE INCH[1]

| Specification section | Grade | Min. t. s. p. s. i. | For temperature not exceeding ° F [2]— | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1,000 |
| Seamless: | | | | | | | | | | |
| 51.11 | A | 48000 | 7200 | 6800 | 6100 | 5400 | 4300 | 3300 | 1900 | ..... |
| 51.11 | B | 60000 | 9000 | 8500 | 7800 | 6800 | 5500 | 4200 | 2800 | 1500 |
| 51.11 C-Mo | P 1 | 55000 | 8200 | 8200 | 8200 | 8000 | 7800 | 7500 | 6000 | 3700 |
| 51.11a | A | 48000 | 7200 | 6800 | 6100 | ..... | ..... | ..... | ..... | ..... |
| 51.11a | B | 60000 | 9000 | 8500 | 7400 | ..... | ..... | ..... | ..... | ..... |

[1] Seamless medium-carbon steel pipe may be used for the construction of drum shells, and shall be computed in accordance with the formulas provided in §§52.2-3 and 52.2-6 for cylindrical shells.
[2] Intermediate values of S may be obtained by interpolation.

S=85 percent of above values for electric-resistance welded steel pipe, Sections 51.11a and 51.11b (temperature not to exceed 650° F.).

S=4800 for furnace welded steel pipe, sections 51.11 and 51.11a (temperature not to exceed 450° F.).

S=4400 for welded iron pipe, Section 51.12 (temperature not to exceed 450° F.).

S=3500 for seamless copper pipe, Section 51.14 and seamless brass pipe, Section 51.13 (temperature not to exceed 406° F.).

S=2625 for brazed copper pipe (temperature not to exceed 406° F.).

(9 F. R. 13502, 10 November 1944.)

6. Section 55.19-7 *Temperature limitations* is deleted. (9 F. R. 13502, 10 November 1944.)

7. Section 55.19-8 is amended by the addition of Tables P-2 and P-2A to paragraph (d) and by changing the descriptions for Figure P-7 in paragraph (e), reading as follows:

§ 55.19-8 Flange standards. * * *
(d) * * *

TABLE P-2—BRONZE FLANGED FITTINGS AND COMPANION FLANGES
[150 pounds]

| Nominal pipe size (inches) | Outside diameter of flange | Flange thickness (minimum)[1] | Diameter of bolt circle | Number of bolts | Size of bolts | Metal thickness of fitting (minimum) | Diameter hub (minimum) | Depth through hub |
|---|---|---|---|---|---|---|---|---|
| | *Inches* | *Inches* | *Inches* | | *Inches* | *Inches* | *Inches* | *Inches* |
| ½ | 3½ | 5/16 | 2⅜ | 4 | ½ | 3/32 | 1 3/16 | 19/32 |
| ¾ | 3⅞ | 11/32 | 2¾ | 4 | ½ | 7/64 | 1½ | 5/8 |
| 1 | 4¼ | 3/8 | 3⅛ | 4 | ½ | ⅛ | 1 5/16 | 11/16 |
| 1¼ | 4⅝ | 13/32 | 3½ | 4 | ½ | 9/64 | 2 1/16 | 1 3/16 |
| 1½ | 5 | 7/16 | 3⅞ | 4 | ½ | 5/32 | 2 9/16 | ⅞ |
| 2 | 6 | ½ | 4¾ | 4 | ⅝ | 3/16 | 3 1/16 | 1 |
| 2½ | 7 | 9/16 | 5½ | 4 | ⅝ | 13/64 | 3 9/16 | 1 1/16 |
| 3 | 7½ | ⅝ | 6 | 4 | ⅝ | 7/32 | 4¼ | 1 3/16 |
| 3½ | 8½ | 11/16 | 7 | 8 | ⅝ | ¼ | 4 13/16 | 1¼ |
| 4 | 9 | 11/16 | 7½ | 8 | ⅝ | 17/64 | 5 5/16 | 1 5/16 |
| 5 | 10 | ¾ | 8½ | 8 | ¾ | 19/64 | 6 5/16 | 1 7/16 |
| 6 | 11 | 13/16 | 9½ | 8 | ¾ | 21/64 | 7 9/16 | 1 9/16 |
| 8 | 13½ | 15/16 | 11¾ | 8 | ¾ | 13/32 | 9 13/16 | 1¾ |
| 10 | 16 | 1 | 14¼ | 12 | ⅞ | 31/64 | 12 | 1 15/16 |
| 12 | 19 | 1 1/16 | 17 | 12 | ⅞ | 9/16 | 14 3/8 | 2 1/16 |

[1] The "flange thickness (minimum)" as shown in the table is the dimension from back of flange to gasket contact face. Blind flanges may be recessed 1/16" with a diameter equal to the inside diameter of the flange fitting.

TABLE P-2A—BRONZE FLANGED FITTINGS AND COMPANION FLANGES
[250 and 300 pounds]

| Nominal pipe size (inches) | Outside diameter of flange | Flange thickness (minimum)[1] | | Diameter of bolt circle | Number of bolts | Size of bolts | Metal thickness of fitting (minimum) | Diameter hub (minimum) | Depth through hub |
|---|---|---|---|---|---|---|---|---|---|
| | | 250 lbs. | 300 lbs. | | | | | | |
| | *Inches* | *Inches* | *Inches* | *Inches* | | *Inches* | *Inches* | *Inches* | *Inches* |
| ½ | 2 3/4 | 13/32 | ½ | 2⅜ | 4 | ½ | ⅛ | 1 3/16 | 19/32 |
| ¾ | 4⅛ | 7/16 | 17/32 | 3¼ | 4 | ⅝ | 5/32 | 1½ | ⅝ |
| 1 | 4⅞ | ½ | 19/32 | 3½ | 4 | ⅝ | 11/64 | 1 5/16 | 11/16 |
| 1¼ | 5¼ | 17/32 | ⅝ | 3⅞ | 4 | ⅝ | 3/16 | 2 1/16 | 1 3/16 |
| 1½ | 6⅛ | 9/16 | 11/16 | 4½ | 4 | ¾ | 13/64 | 2 9/16 | ⅞ |
| 2 | 6½ | ⅝ | ¾ | 5 | 8 | ⅝ | ¼ | 3 1/16 | 1 |
| 2½ | 7½ | 11/16 | 13/16 | 5⅞ | 8 | ¾ | 9/32 | 3 9/16 | 1 1/16 |
| 3 | 8¼ | ¾ | 29/32 | 6⅝ | 8 | ¾ | 21/64 | 4¼ | 1 3/16 |
| 3½ | 9 | 13/16 | 31/32 | 7¼ | 8 | ¾ | 23/64 | 4 13/16 | 1¼ |
| 4 | 10 | ⅞ | 1 1/16 | 7⅞ | 8 | ¾ | 13/32 | 5 5/16 | 1 5/16 |
| 5 | 11 | 1 1/16 | 1⅛ | 9¼ | 8 | ¾ | 31/64 | 6 5/16 | 1 7/16 |
| 6 | 12½ | 1 | 1 3/16 | 10⅝ | 12 | ¾ | 9/16 | 7 9/16 | 1 9/16 |
| 8 | 15 | 1 1/8 | 1⅜ | 13 | 12 | ⅞ | 23/32 | 9 13/16 | 1¾ |

[1] The "flange thickness (minimum)" as shown in the table is the dimension from back of flange to gasket contact face. Blind flanges may be recessed 1/16" with a diameter equal to the inside diameter of the flange fitting.

(e) * * *

Figure P–7.—Pipe may be attached to high hub flanges by shrinking the flange on to the end of the pipe and flaring the end of the pipe to an angle of not less than 20°. If used for Class I piping, a fillet weld with throat of not less than ¼ inch shall be used to attach the hub of the flange to the wall of the pipe. This flange is limited to a maximum pressure of 250 pounds per square inch at a temperature not exceeding 450° F. For Class II piping, the fillet weld may be omitted. (9 F. R. 13502, 10 November 1944.)

8. Section 55.19–9 (a) is amended to read as follows:

§ 55.19–9 *Bolting.* (a) Bolts used in connection with valves, fittings and flanges shall comply with the standards given in Tables P–2 to P–9, inclusive. If the requirements of these tables are not practicable, the stress shall be calculated as required by §52.16–5 using the smallest cross-sectional area of the bolt. (9 F. R. 13503, 10 November 1944.)

9. Section 55.19–10 *Detail requirements—Class I piping* is amended by deleting paragraph (b). (9 F. R. 13503, 10 November 1944.)

10. Section 55.19–11 is amended by deleting paragraphs (d) (2) and (d) (3) (i) and by substituting the following for paragraph (d) (2):

§ 55.19–11 *Class II piping.* * * *

(d) * * *

(2) All steel flanges shall conform with the minimum standards given in Tables P–3 to P–9, inclusive. Bronze flanges shall conform with the minimum standards given in Tables P–2 and P–2A. Cast iron flanges shall conform at least with the standards given in Tables P–13 and P–14. (9 F. R. 13503, 10 November 1944.)

11. Section 55.19–14 is amended by deleting paragraphs (e) (3) and (e) (4) and substituting the following therefor:

§ 55.19–14 *Independent fuel piping and tanks* (Emergency units). * * *

(e) *Piping connections.* * * *

(3) The filling pipe shall enter the top of the tank. If the filling pipe is run nearly to the bottom of the tank, it may serve as a combined filling and sounding pipe.

(4) The supply pipe to the engine shall enter the top of the tank and extend nearly to the bottom of the tank. The return pipe from the engine shall enter the top of the tank. (9 F. R. 13503, 10 November 1944.)

PART 56—FUSION WELDING

Section 56.20–19 (b) is amended to read as follows:

§ 56.20–19 *Welded piping.* * * *

(b) The rules in this section apply to Class I piping only. (9 F. R. 13502, 10 November 1944.)

PART 57—SUPPLEMENTARY DATA AND REQUIREMENTS

Section 57.21–3 (c) is amended to read as follows:

§ 57.21–3 *Fusible plugs.* * * *

(c) *Tests.* Fusible plug manufacturers who desire to have their product approved for marine service shall submit samples from each heat to the Commandant for test, as follows: One sample plug for chemical analysis plus an additional plug for physical test taken at random from each heat for examination and test for each 500 plugs or fraction thereof. The samples furnished shall bear the same number for any one heat and shall be representative of the heat from which the sample was poured. The fillings shall be tested for tightness by striking the small end three blows equivalent to two foot-pounds of energy per blow. If these tests reveal a loose filling, the entire lot of plugs shall be rejected. Next, the filling of one test plug from each lot shall be melted out of the casing by a ring burner and caught in a clean graphite crucible to be used as a sample for chemical analysis. The inside of the casing must show that the tin filling was properly alloyed to the casing. Evidence of improper or incomplete alloying will cause rejection of the entire lot represented. When more than two test plugs from the same heat are submitted, the melting point of the tin from the plug representing each lot will be determined and the tin showing the lowest melting point will be analyzed. (9 F. R. 13503, 10 November 1944.)

Subchapter I—Overtime Services

PART 143—EXTRA COMPENSATION FOR OVERTIME SERVICES

Section 143.1 *Extra compensation* is amended by changing the phrase, "local inspectors and their assistants," to "Officers in Charge, Marine Inspection,' and their inspectors.' "

SECTION 143.15 *Application form* is amended by changing the phrase, "Director of the Bureau of Marine Inspection and Navigation, and approved by the Secretary of Commerce," to "Commandant of the Coast Guard."

SECTION 143.17 *Protests* is amended by changing the phrase, "Director, Bureau of Marine Inspection and Navigation." to "Commandant of the Coast Guard." (9 F. R. 13669, 15 November 1944.) (Corrected 9 F. R. 13935, 22 November 1944.)

Subchapter O—Regulations Applicable to Certain Vessels and Shipping During Emergency

PART 151—MARINE ENGINEERING, MATERIALS; REGULATIONS DURING EMERGENCY

Part 151 is amended by the addition of a new § 151.15 reading as follows:

§ 151.15 *Steel forgings.* Material manufactured during the emergency in accordance with the requirements of A. S. T. M. designation A181–42 shall be considered as satisfying the requirements for 150- and 300-pound steel pipe flanges as set forth in §§ 51.15–1 to 51.15–14, inclusive, of this chapter. (9 F.R. 13503, 10 November 1944.)

SECTION 151.23 (c) is amended to read as follows:

§ 151.23 *Flanges, steel plate.* * * *

(c) Steel plate flanges shall be attached to pipes in the following manner:

(1) For pressures not exceeding 125 pounds per square inch, flanges may be attached to pipes by means of full strength internal and external fillet welds. The throat of the external weld shall be equal to the wall thickness of the pipe, but in no case less than ¼ inch.

(2) For pressures exceeding 125 pounds per square inch, the back of the flange shall be machined for a "J" type welding groove in addition to the welds required by (c) (1) of this paragraph. The depth of such groove shall be equal to the wall thickness of the pipe, but in no case less than ¼ inch. (9 F. R. 13669, 15 November 1944.)

# Waivers

## TITLE 46—SHIPPING

### Chapter I—Coast Guard Inspection and Navigation

VESSELS ENGAGED IN BUSINESS CONNECTED WITH CONDUCT OF WAR

WAIVER OF COMPLIANCE WITH CERTAIN PROVISIONS

The Acting Secretary of the Navy having by order dated October 1, 1942 (7 F.R. 7979) waived compliance with the navigation and vessel inspection laws administered by the United States Coast Guard, in the case of any vessel engaged in business connected with the conduct of the war, to the extent and in the manner that the Commandant, United States Coast Guard, shall find to be necessary in the conduct of the war;

Now, therefore, I find it to be necessary in the conduct of the war that there be waived compliance with the provisions of sections 4573, 4574, 4575, and 4576 of the Revised Statutes, as amended (46 U.S.C. 674–677), and the regulations issued thereunder (46 CFR 5.12) (19 CFR, Cum. Supp., 4.68), and with the provisions of sections 4532 and 4600 of the Revised Statutes, as amended (46 U.S.C. 684 and 703), to the extent that any vessel which is engaged in business connected with the conduct of the war and the master

of which has either shipped his crew before a shipping commissioner or reported their engagement on Coast Guard Form 735–T is required to have a crew list, compiled on Coast Guard Form 710–A or in any other manner, or a copy of the shipping articles certified by a Collector of Customs, on condition that the master of any vessel required to ship his crew before a shipping commissioner shall produce the shipping articles for any consul of the United States who deems their contents necessary to enable him to discharge the duties imposed upon him by law.

Dated: November 1, 1944. (9 F.R. 13167, 4 November 1944.)

Subchapter G—Ocean and Coastwise: General Rules and Regulations

PART 63—INSPECTION OF VESSELS

WAIVER OF VESSEL INSPECTION REGULATIONS

The Acting Secretary of the Navy having by order dated 1 October 1942 (7 F.R. 7979), waived compliance with the Navigation and Vessel Inspection laws administered by the United States Coast Guard, in the case of any vessel engaged in business connected with the conduct of the war to the extent and in the manner that the Commandant, U. S. Coast Guard, shall find to be necessary in the conduct of the war; and

The United States Maritime Commission having indicated that the efficient prosecution of the war would be impeded by the application to certain ocean and coastwise vessels of certain inspection regulations requiring the use of power distribution panels for power distribution;

Now, therefore, upon request of the United States Maritime Commission, I hereby find it to be necessary in the conduct of the war that there be waived compliance with the vessel inspection regulations administered by the U. S. Coast Guard (46 CFR, Cum. Supp., 63.9) to permit the use of lighting distribution panels for power distribution on U. S. Maritime Commission Vessels, Designs C1–M–AV1 and R1–M–AV–3.

Dated: November 22, 1944. (9 F.R. 14018, 25 November 1944.)

# Marine Inspection Memorandum No. 79

## Procedure for Handling Violations of Navigation Laws and Regulations and Collection of Penalties

UNITED STATES COAST GUARD,
*Washington, D.C., 15 November 1944.*

Ref: (a) Marine Inspection Memorandum No. 74, dated 15 June 1944, and annexed "Procedure for Handling and Disposition of Reported Violations of Navigation Laws and Regulations Administered and Enforced by the United States Coast Guard and for the Collection of Penalties Assessed as a Result of such Violations."

1. The purpose of this memorandum is to make certain changes in the procedure annexed to Marine Inspection Circular No. 74.

2. Section 6 of the procedure referred to in reference (a) is revoked, and there is inserted in lieu thereof a new section 6 reading as follows:

"6. *Criminal Cases.*

"(a) In cases involving a violation of a criminal statute which is administered by the Coast Guard (rather than enforced for some other agency which has the responsibility for administration) which provides for punishment by fine or imprisonment to be imposed by a court as distinguished from a penalty to be imposed by the Coast Guard, the following procedure will be observed. All reports of violations of navigation statutes or regulations providing for criminal penalties shall first be examined to determine whether a *prima facie* case has been made out. If it is determined that the report does not make out a *prima facie* case, the matter shall be dropped unless further investigation is deemed advisable. If, however, it is determined that a *prima facie* case has been established, a responsible Coast Guard officer designated for that purpose by the District Coast Guard Officer shall, if possible, contact the alleged violator, advise him of the allegations against him, and afford him a reasonable opportunity to make a full statement or explanation with respect thereto either orally or in writing at his option. If the alleged violator requests a personal interview, it shall be granted. The case will then be referred to the District Coast Guard Officer who will determine (after full consideration of all the material before him, including the report of the officer and the statement of the alleged violator, if one has been made) whether the case is one that justifies prosecution in the courts. In reaching this decision, the District Coast Guard Officer will take into consideration, among other factors, the following: (a) the likelihood of securing a conviction in the courts; (b) the degree of culpability of the alleged violator; (c) the effect of the alleged violation on the general enforcement of the pertinent and related statutes and regulations; and (d) the effect of the alleged violation on safety of life or property. In this connection it may be stated that it is not the policy of the Coast Guard to countenance or overlook wilful or repeated violations of the laws and regulations or indifference or inexcusable negligence in meeting the requirements thereof. On the other hand, Coast Guard policy does not contemplate that persons who make reasonable efforts to comply with the laws and regulations will be haled into the criminal courts on technical violations.

"(b) If the District Coast Guard Officer determines that the case is one that does not justify prosecution in the courts, he should close the case issuing to the alleged violator an admonition, if in his discretion such action seems called for. If, on the other hand, the District Coast Guard Officer determines that the case is one that justifies prosecution in the courts, he shall refer the case, together with the supporting file, to Headquarters for its decision on whether the case should be referred to the Department of Justice. The reference to Headquarters shall be accompanied by a memorandum from the District Coast Guard Officer setting forth the relevant facts and considerations that will be helpful to Headquarters in reaching a decision on the propriety of reference to the Department of Justice for prosecution. The memorandum should particularly include information as to local conditions that may bear on the matter such as, for example, the implications of the particular case upon local compliance, the previous history of the offender, the general state of compliance in the locality."

# Navigation and Vessel Inspection Circular No. 53

## Procedure for Effecting Waivers of Navigation and Vessel Inspection Laws Relating to Employment as Watch Officers of Persons Who are Not Citizens of the United States

UNITED STATES COAST GUARD,
*Washington, D. C., 8 November 1944.*

Refs: (a) Navigation and Vessel Inspection Circular No. 39.

1. Paragraph 2 of reference (a) is amended by striking therefrom the words "nor any citizen or national of Finland, Italy, Hungary, Roumania or Bulgaria."

2. Hereafter, HQ may include in the lists of approved alien officers referred to in reference (a), persons who are citizens or nationals of Finland, Italy, Hungary, Roumania or Bulgaria. Such inclusions will be based on careful investigation by Coast Guard

Headquarters into the background and loyalties of such persons.

(Signed) R. R. WAESCHE,
*Commandant.*

# Equipment Approved by the Commandant

### BILGE PUMP

Semirotary, hand-operated bilge pump (U. S. C. G. No. 3) for lifeboats not exceeding 1,400 cubic feet capacity (Dwg. No. 228, dated 1 September 1944), submitted by Allied Marine Equipment Corporation, 204 Railroad Avenue, Hackensack, N. J.

### BALLOONS FOR LIFEBOAT RADIO ANTENNA

Balloon for lifeboat radio antenna, Type N-4, submitted by Dewey & Almy Chemical Co., Cambridge 40, Mass.

Balloon for lifeboat radio antenna, Type CAGS, submitted by the Molded Latex Products, Passaic, N. J.

### BOILER

Foster Wheeler Corporation D Type Marine Package Boiler (Dwg. No. PD440-45A, dated 11 October 1944), submitted by the Foster Wheeler Corporation, 165 Broadway, New York.

### KITE FOR LIFEBOAT RADIO ANTENNA

Kite for lifeboat radio antenna, designated M-357-A (Dwg. No. 8-OAOA-003-4, dated 6 March, 1944), submitted by the Hoffman Radio Corporation, 3430 S. Hill Street, Los Angeles 7, Calif. (9 F. R. 13240, 7 November 1944.)

### HAND PROPELLING GEAR FOR LIFEBOATS

Ro-Tork hand propelling gear (Assembly Dwg. No. 3301, dated 23 September, 1944, revised 31 October, 1944), submitted by Lane Lifeboat and Davit Corporation, Foot of Fortieth Road, Flushing, N. Y. (9 F. R. 13613, 14 November 1944.)

### HEATING BOILER

Way-Wolff Associates Blue Jacket Hot Water Heating Boiler (Maximum working pressure of 30 pounds p. s. i.) (Dwg. No. H 107, dated 17 October 1944, revised 24 October 1944), manufactured by Way-Wolff Associates, 53 Park Place, New York 7, N. Y. (9 F. R. 13240, 7 November 1944.)

### LIFEBOATS

24' x 8' x 3'8¾" metallic motor-propelled lifeboat (415 cu. ft. gross capacity by the .6 rule, 436 cu. ft. gross capacity by Stirling rule, 36-person peacetime capacity, 29-person wartime capacity) (Construction and Arrangement Dwg. No. 2727, dated 30 December, 1943, revised 24 February, 1944), submitted by the Welin Davit and Boat Corporation, Perth Amboy, N. J.

31' x 11'3" x 4'6" metallic hand propelled lifeboat (941 cu. ft. capacity by the .6 rule, 990 cu. ft. capacity by Stirling rule, 84-person peacetime capacity, 66-person wartime capacity) (General Arrangement and Construction Dwg. No. 3110, dated 6 October, 1944), submitted by the Lane Lifeboat & Davit Corporation, Foot of Fortieth Road, Flushing, N. Y. (9 F. R. 13613, 14 November 1944.)

### LIFE PRESERVERS

Model No. 1, adult kapok life preserver (C. G. Dwg. No. F-49-6-1, Alt. 1, and Specification dated 10 June 1944), Approval No. B-252, manufactured by Seaway Manufacturing Co., 213 N. Peters Street, New Orleans, La. (For general use.)

Model No. 2, adult kapok life preserver (C. G. Dwg. No. F-49-6-1, Alt. 1, and Specification dated 10 June 1944), Approval No. B-253, manufactured by Seaway Manufacturing Company, 213 North Peters Street, New Orleans, La. (For general use.)

Model No. 3, adult kapok life preserver (C. G. Dwg. No. F-49-6-1, Alt. 1, and Specification dated 10 June 1944), Approval No. B-254, manufactured by Seaway Manufacturing Co., 213 North Peters Street, New Orleans, La. (For use with rubber lifesaving suits.) (9 F. R. 13240, 7 November 1944.)

Yoke Type adult kapok life preserver (Dwg. T. S. 24-1, dated 12 October 1944, and specification dated 19 October, 1944), Approval No. B-251, for use of military personnel on board vessels operated by or for the U. S. Army and during assault and landing operations, submitted by Office of Chief of Transportation, Army Service Forces, Washington, D. C. (9 F. R. 13613, 14 November 1944.)

### LIFE PRESERVER LIGHT

Life preserver light, combination Model A and Model B (Dwg. No. 302-B-1-Alt, dated 27 October 1944), submitted by Colvin-Slocum Boats, Inc., 15 Park Row, New York 7, N. Y. (9 F. R. 13240, 7 November 1944.)

### LIFE RAFTS

Twenty-person improved type life raft, wood construction with balsa wood and cork filler (Dwg. No. P-103, dated 16 October 1944), submitted by Mr. C. Pantke, 45 West 45th Street, New York, N. Y.

Twenty-person improved type life raft, wood construction with balsa wood and cork filler (C. Pantke Dwg. No. P-103, dated 16 October 1944), submitted by Roof Structures, Inc., 45 West 45th Street, New York, N. Y. (9 F. R. 13613, 14 November 1944.)

Twenty-person improved type life raft, wood construction, Styrofoam, Type Q103.6 filled (General Arrangement Dwg. No. 1, dated 11 November 1944), submitted by Craftsman Equipment Corporation, 41-43 Utica Avenue, Brooklyn 13, N. Y.

### LINE-THROWING GUN

Shoulder line-throwing gun (Dwg. No. 15), submitted by Coston Supply Co., 31 Water Street, New York 4, N. Y.

### LUMINOUS MARKING FOR INTERIOR ACCOMMODATIONS

Luminous marking, Velva-Glo D-23, submitted by the Velvatone Poster Co., San Francisco, Calif.

### SIGNAL PISTOL

Sklar signal pistol (Dwg. No. Z-100, Modification Dwg. No. Z-100A, dated 26 August 1944), submitted by Sklar Signal Pistol Co., 1017 Market Street, San Francisco 3, Calif.

### WATER INDICATORS

Yarway remote water level indicators for marine boilers, approved for 125 p. s. i. (Dwgs. EL-20897, EL-20906, EL-13001 (cast iron fitting), EL-13006), 600 p. s. i. (Dwgs. EL-20897, EL-20906, EL-13001 (cast steel fitting), EL-13006), 900 p. s. i. (Dwgs. EL-20904, EL- 20905, EL-13002, EL-13004, EL-13005, EL-13006), and for 1350 p. s. i. (Dwgs. EL-20904, EL-20905, EL-13003, EL-13004, EL-13005, EL-13006), manufactured by Yarnall-Waring Co., Chestnut Hill, Philadelphia 18, Pa. (9 F. R. 13240, 7 November 1944.)

### WINCH

Schat Type S. E. W.-19-Q. R. lifeboat winch, fitted with quick-return mechanism (Arrangement Dwg. No. BA 380, dated 21 July 1944) (Maximum working load of 6,335 pounds at the drum), submitted by Lane Lifeboat and Davit Corporation, Foot of Fortieth Road, Flushing, N. Y. (Supersedes approval 18 August 1944, 9 F. R. 10204.) (9 F. R. 13613, 14 November 1944.)

## WITHDRAWAL OF APPROVAL

Coast Guard approval of the following items of equipment is withdrawn effective 31 December 1944:

### LUMINOUS MARKING FOR INTERIOR ACCOMMODATIONS

Luminous tape, Type A, submitted by Century Lighting, Inc., New York, N. Y. (approved 30 March 1943, 8 F. R. 4196).

Conti-Glo, Type P-11, submitted by Continental Lithograph Corporation, Cleveland, Ohio (approved 7 October 1942, 7 F. R. 7980).

Luminous tape, Type A, submitted by E. I. du Pont de Nemours & Co., Wilmington, Del. (approved 30 March 1943, 8 F. R. 4196).

Luminous tape, Types 11–1031, 11–1032, 11–1033 and 10–1332, submitted by Charles F. Heaphy Co., Graybar Building, New York, N. Y. (approved 29 March 1944, 9 F. R. 3439).

Luminous tape, Type A, submitted by the Hyperion Products Corporation, New York, N. Y. (approved 17 November 1943, 8 F. R. 15745).

Luminous tape, designated "Lumanize" tape, submitted by the Lunex Corporation, Davenport, Iowa (approved 17 November 1943, 8 F. R. 15745).

Luminous tape, Lytape Type P–12, submitted by E. P. Lynch, Inc., 92 Weybosset Street, Providence, R. I. (approved 7 October 1942, 7 F. R. 7980).

Luminous tape, Press-Glo Blue-green, manufactured by Prescott Paint Co., 445 West Thirty-first Street, New York, N. Y. (approved 14 July 1943, 8 F. R. 9841).

Luminous tape, Type A, submitted by the Stroblite Co., New York, N. Y. (approved 6 October 1943, 8 F. R. 13752).

Plastic luminous tape, Velva-Glo D–7 Blue-green, submitted by Velvatone Poster Co., 16 Beale Street, San Francisco, Calif. (approved 11 January 1943, 8 F. R. 501).

The approved luminous tapes on which approvals are withdrawn effective 31 December 1944, that may be installed prior to 31 December 1944, may remain in place so long as in good and serviceable condition.

## TERMINATION OF APPROVAL

Coast Guard approval of the following item of equipment has been terminated, as the manufacturer no longer produces the same:

### WATER LIGHT

Electric type, vaporproof floating, lighting buoy, submitted by Standard Oil Co. of Louisiana, Baton Rouge, La. (approved 1936). (This listing supersedes Termination of Approval listing in Federal Register, 1 November 1944, 9 F.R. 13018). Water lights now in service may be continued in use so long as in serviceable condition.

## CORRECTION

### APPROVAL AND TERMINATION OF APPROVAL OF EQUIPMENT

In the listing of approval and termination of approval in Federal Register document 44–16685 published in the Federal Register on November 1, 1944 (9 F. R. 13018), the listing under "Disengaging Apparatus for Lifeboats" for the Rottmer type releasing gear submitted by Welin Davit and Boat Corporation shall be corrected by changing the figure "8,280 pounds" to "8,380 pounds" for working load per hook. (9 F.R. 13018, 1 November 1944) (Corrected 9 F. R. 13733, 16 November 1944.)

## ITEMS SUITABLE FOR MERCHANT MARINE USE

### ELECTRICAL APPLIANCES

For the use of Coast Guard personnel in their work of inspecting merchant vessels, the following items of electrical equipment have been examined. This list is not intended to be an all-inclusive list of miscellaneous electrical equipment; accordingly, items not included may also be satisfactory for marine use.

| Manufacturer and description of equipment | Location apparatus may be used | | | | Date of action |
|---|---|---|---|---|---|
| | Passenger and crew quarters and public spaces | Machinery, cargo and work spaces | Open decks | Pump rooms of tank vessels | |
| Lovell-Dressel Co., Inc., Arlington, N. J.: | | | | | |
| Blinker signal key, catalog No. MC953, drawing No. M5229, alt. 3 | x | x | x | | 11/7/44 |
| Blinker light, catalog No. MC950 with catalog No. 4335–L 6-light socket, drawing No. M–5218, alt. 1 | x | x | x | | 10/20/44 |
| Russell & Stoll Co., Inc., New York, N. Y.: Deck fixture, watertight, 200 watts maximum, catalog Nos. 515 and 515–L, drawing No. D–6056, alt. 1 | x | x | x | | 10/30/44 |
| Specialties Manufacturing Co., Inc.: Terminal and stuffing tubes, drawing Nos. 10164, rev. 5; 10167, rev. 1; 10199, rev. 5; 10229, rev. 5; 10278, rev. 4; 10279, rev. 2 and 10280, rev. 2 | x | x | x | | 10/26/44 |
| The Thomas & Betts Co., Inc., Elizabeth, N. J.: Junction boxes without cover, for use with non-watertight wiring devices, catalog Nos. 4061, 4062, 4063, 4064, 4081, 4082, 4083, and 4084 | | | | | 11/13/44 |

# Numbered and Undocumented Vessels

The table below gives the cumulative total of numbered but undocumented vessels in each Coast Guard District for the month shown. Generally speaking, undocumented vessels are those of less than 5 net tons engaged in trade and those of less than 16 gross tons used exclusively as pleasure vessels. These vessels are required to be numbered under the provisions of the Act of June 7, 1918, as amended (46 U. S. C. 288).

| Coast Guard district | 1944 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | January | February | March | April | May | June | July | August | September |
| 1. Boston | 25,860 | 25,881 | 25,897 | 25,936 | 26,026 | 26,128 | 26,224 | 26,329 | 26,369 |
| 3. New York | 44,089 | 44,015 | 43,944 | 43,918 | 43,937 | 43,963 | 44,113 | 44,178 | 44,152 |
| 4. Philadelphia | 17,634 | 17,578 | 17,573 | 17,620 | 17,672 | 17,753 | 17,824 | 17,870 | 17,838 |
| 5. Norfolk | 35,150 | 35,200 | 35,256 | 35,330 | 35,461 | 35,592 | 35,743 | 35,863 | 35,983 |
| 6. Charleston | 5,670 | 5,677 | 5,729 | 5,751 | 5,790 | 5,851 | 5,890 | 5,925 | 5,950 |
| 7. Miami | 14,226 | 14,302 | 14,345 | 14,381 | 14,404 | 14,424 | 14,457 | 14,483 | 14,542 |
| 8. New Orleans | 32,643 | 32,751 | 32,918 | 33,070 | 33,319 | 33,494 | 33,648 | 33,821 | 33,905 |
| 9. Cleveland | 79,989 | 79,803 | 79,746 | 80,048 | 80,596 | 81,174 | 81,599 | 82,208 | 82,489 |
| 9. St. Louis | 44,961 | 44,984 | 45,124 | 45,368 | 45,689 | 46,078 | 46,473 | 46,736 | 46,912 |
| 10. San Juan | 284 | 286 | 287 | 289 | 291 | 287 | 287 | 283 | 284 |
| 11. Long Beach | 7,330 | 7,287 | 7,261 | 7,257 | 7,272 | 7,321 | 7,322 | 7,334 | 7,350 |
| 12. San Francisco | 17,810 | 17,778 | 17,763 | 17,781 | 17,803 | 17,811 | 17,843 | 17,871 | 17,891 |
| 13. Seattle | 34,129 | 34,189 | 34,303 | 34,399 | 34,531 | 34,747 | 34,967 | 35,230 | 35,263 |
| 14. Honolulu | 1,572 | 1,570 | 1,576 | 1,582 | 1,589 | 1,595 | 1,598 | 1,605 | 1,615 |
| 17. Ketchikan | 5,397 | 5,397 | 5,408 | 5,423 | 5,466 | 5,516 | 5,538 | 5,559 | 5,563 |
| Total | 366,744 | 366,698 | 367,130 | 368,153 | 369,846 | 371,734 | 373,526 | 375,295 | 376,163 |

# Aids to Navigation

(Continued from p. 239.)

areas have been built in considerable numbers, making it possible to look forward to replacement of many of the older and more obsolete vessels of this class. Other important items of maintenance equipment provided for war needs will be available for increasing the utility of bases and facilitating maintenance generally.

"Another field in which improvement is going forward in spite of the war is in standardization of equipment, operating procedures, and characteristics of aids. All of this makes for more ready recognition and hence the greater usefulness of the system of aids. It is hoped for this reason that such standardization may be extended across international border lines more generally. The thorough coordination of practices with respect to the operation of radiobeacons and characteristics of the buoyage system which exists between Canada and the United States is a splendid example."

# Merchant Marine Personnel Statistics

## MERCHANT MARINE LICENSES ISSUED DURING OCTOBER 1944

### DECK OFFICERS

| Region | Master | | | | | | | | | | Chief mate | | | | | | | | | | Second mate | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ocean | | Coastwise | | Great Lakes | | B. S. & L. | | Rivers | | Ocean | | Coastwise | | Great Lakes | | B. S. & L. | | Rivers | | Ocean | | Coastwise | | 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 | 75 | 58 | 2 | 13 | .... | .... | 8 | 25 | .... | 7 | 78 | 9 | .... | .... | .... | .... | 2 | 7 | .... | .... | 181 | 16 | .... | 1 | .... | .... | .... | 1 | .... | .... |
| Gulf coast | 11 | 11 | .... | 3 | .... | .... | .... | 3 | 1 | 9 | 17 | 4 | .... | 1 | .... | .... | 1 | .... | .... | 1 | 23 | 1 | .... | .... | .... | .... | .... | .... | .... | .... |
| Great Lakes and rivers | 1 | 2 | .... | 3 | 1 | .... | .... | 1 | 4 | 8 | .... | .... | 1 | .... | .... | .... | .... | .... | 4 | 5 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... |
| Pacific coast | 52 | 68 | 1 | 4 | .... | .... | .... | 7 | .... | .... | 53 | 9 | .... | .... | .... | .... | 3 | 5 | .... | .... | 117 | 6 | .... | .... | .... | .... | .... | .... | .... | .... |
| Total | 139 | 139 | 3 | 23 | 1 | .... | 8 | 36 | 5 | 24 | 148 | 22 | 1 | 1 | .... | .... | 6 | 12 | 4 | 6 | 321 | 24 | .... | 1 | .... | .... | .... | 1 | .... | .... |

| Region | Third mate | | | | | | | | | | Pilots | | | | | | Master mate | | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ocean | | Coastwise | | Great Lakes | | B. S. & L. | | Rivers | | Great Lakes | | B. S. & L. | | Rivers | | Uninspected vessels, high seas | | | | Original | Renewal | Grand total |
| | O | R | O | R | O | R | O | R | O | R | O | R | O | R | O | R | O | R | O | R | | | |
| Atlantic coast | 454 | 10 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 47 | 111 | .... | 1 | 12 | .... | 1 | .... | 860 | 261 | 1,121 |
| Gulf coast | 30 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 10 | 29 | 5 | 1 | .... | .... | .... | .... | 98 | 64 | 162 |
| Great Lakes and rivers | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 8 | 9 | 49 | 17 | .... | .... | .... | .... | 68 | 47 | 115 |
| Pacific coast | 221 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 16 | 68 | 1 | .... | .... | 15 | .... | 1 | 464 | 186 | 650 |
| Total | 705 | 15 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 81 | 217 | 55 | 19 | 12 | 15 | 1 | 1 | 1,490 | 558 | 2,048 |

### 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 | 65 | 104 | 8 | 33 | 68 | 25 | 1 | 3 | 164 | 28 | 1 | 2 | 588 | 21 | .... | .... |
| Gulf coast | 10 | 15 | 1 | 3 | 24 | 4 | .... | 3 | 32 | 3 | .... | .... | 41 | 1 | .... | .... |
| Great Lakes and rivers | .... | 10 | 8 | 27 | 2 | 3 | 4 | 10 | 1 | 6 | 1 | 5 | 3 | .... | .... | 1 |
| Pacific coast | 37 | 46 | 1 | 5 | 73 | 13 | .... | 4 | 99 | 17 | .... | 2 | 203 | 4 | .... | .... |
| Total | 112 | 175 | 18 | 68 | 167 | 45 | 5 | 20 | 296 | 54 | 2 | 9 | 835 | 26 | .... | 1 |

| Region | Motor vessels | | | | | | | | Uninspected vessels | | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chief engineer | | First assistant engineer | | Second assistant engineer | | Third assistant engineer | | Chief engineer | | Assistant engineer | | Original | Renewal | Grand total |
| | O | R | O | R | O | R | O | R | O | R | O | R | | | |
| Atlantic coast | 21 | 48 | 7 | 12 | 8 | 7 | 480 | 3 | 5 | .... | .... | .... | 1,416 | 286 | 1,702 |
| Gulf coast | 4 | 5 | 7 | 1 | 4 | 1 | 14 | .... | .... | .... | .... | .... | 137 | 36 | 173 |
| Great Lakes and rivers | 8 | 6 | 5 | 4 | 1 | 1 | .... | .... | .... | .... | .... | .... | 33 | 73 | 106 |
| Pacific coast | 16 | 24 | 5 | 3 | 12 | 2 | 203 | 2 | 1 | .... | .... | .... | 650 | 122 | 772 |
| Total | 49 | 83 | 24 | 20 | 25 | 11 | 697 | 5 | 6 | .... | .... | .... | 2,236 | 517 | 2,753 |

## ORIGINAL SEAMEN'S DOCUMENTS ISSUED, MONTH OF OCTOBER 1944

| Region | Continuous discharge book | Certificate of identity | A. B., green, 3 years [1] | A. B., green, 9 months emergency [4] | A. B., blue, 18 months, 12 months [1] | A. B., blue, 6 months emergency [2] | A. B., blue, 6 months emergency [3] | Lifeboat, 12-24 months [4] | Lifeboat, 6-12 months emergency [5] | Q.M.E.D., 6 months | Q.M.E.D., emergency | Radio operators | Certificate of service | Tankerman | Staff officer | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Atlantic coast | 175 | 5,804 | 135 | 482 | 54 | 34 | 0 | 980 | 213 | 304 | 339 | 358 | 5,813 | 3 | 433 | 15,127 |
| Gulf coast | 127 | 1,075 | 33 | 72 | 4 | 1 | 1 | 735 | 10 | 217 | 50 | 7 | 949 | 48 | 25 | 3,354 |
| Pacific coast | 21 | 2,499 | 97 | 190 | 52 | 1 | 0 | 663 | 57 | 253 | 233 | 42 | 2,032 | 1 | 105 | 6,246 |
| Great Lakes and rivers | 1,084 | 228 | 17 | 16 | 13 | 34 | 0 | 47 | 14 | 52 | 131 | 8 | 1,381 | 15 | 4 | 3,044 |
| Total | 1,407 | 9,606 | 282 | 760 | 123 | 70 | 1 | 2,425 | 294 | 826 | 753 | 415 | 10,175 | 67 | 567 | 27,771 |

[1] Unlimited.
[2] Great Lakes, lakes, bays, and sounds.
[3] Tugs and towboats and freight vessels under 500 tons (miscellaneous).
[4] 12 months deck or 24 months other departments.
[5] 6 months deck or 12 months other departments.

NOTE.—There were 629 Panamanian Employment Cards issued

## WAIVERS OF MANNING REQUIREMENTS FROM 1 OCTOBER TO 31 OCTOBER, 1944

### 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 engineer 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 | 568 | 288 | 394 | 31 | 961 | 62 | 142 | 34 | 52 | 1,964 |
| Gulf coast | 77 | 35 | 33 | 3 | 170 | 9 | 11 | | 1 | 262 |
| Pacific coast | 338 | 105 | 145 | 21 | 704 | 58 | 247 | 5 | 18 | 1,303 |
| Great Lakes | 203 | | 1 | | 458 | | 114 | | 2 | 575 |
| Total | 1,186 | 428 | 573 | 55 | 2,293 | 129 | 514 | 39 | 73 | 4,104 |

## CREW SHORTAGE REPORTS FROM 1 OCTOBER TO 31 OCTOBER, 1944

### 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 | Junior 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 | 13 | 1 | 1 | 2 | 1 | 4 | 2 | | | | 3 | 5 | 2 | 21 |
| Gulf coast | 3 | | | | | 1 | | 1 | | | | 1 | | 3 |
| Pacific coast | 25 | | | | | 47 | 12 | | | | 1 | 20 | 10 | 90 |
| Great Lakes | 286 | | 1 | 10 | | 132 | 112 | | | 9 | 11 | 305 | 233 | 813 |
| Total | 327 | 1 | 2 | 12 | 1 | 184 | 126 | 1 | | 9 | 15 | 331 | 245 | 927 |



U. S. GOVERNMENT PRINTING OFFICE: 1944