PROCEEDINGS OF THE

MERCHANT MARINE COUNCIL

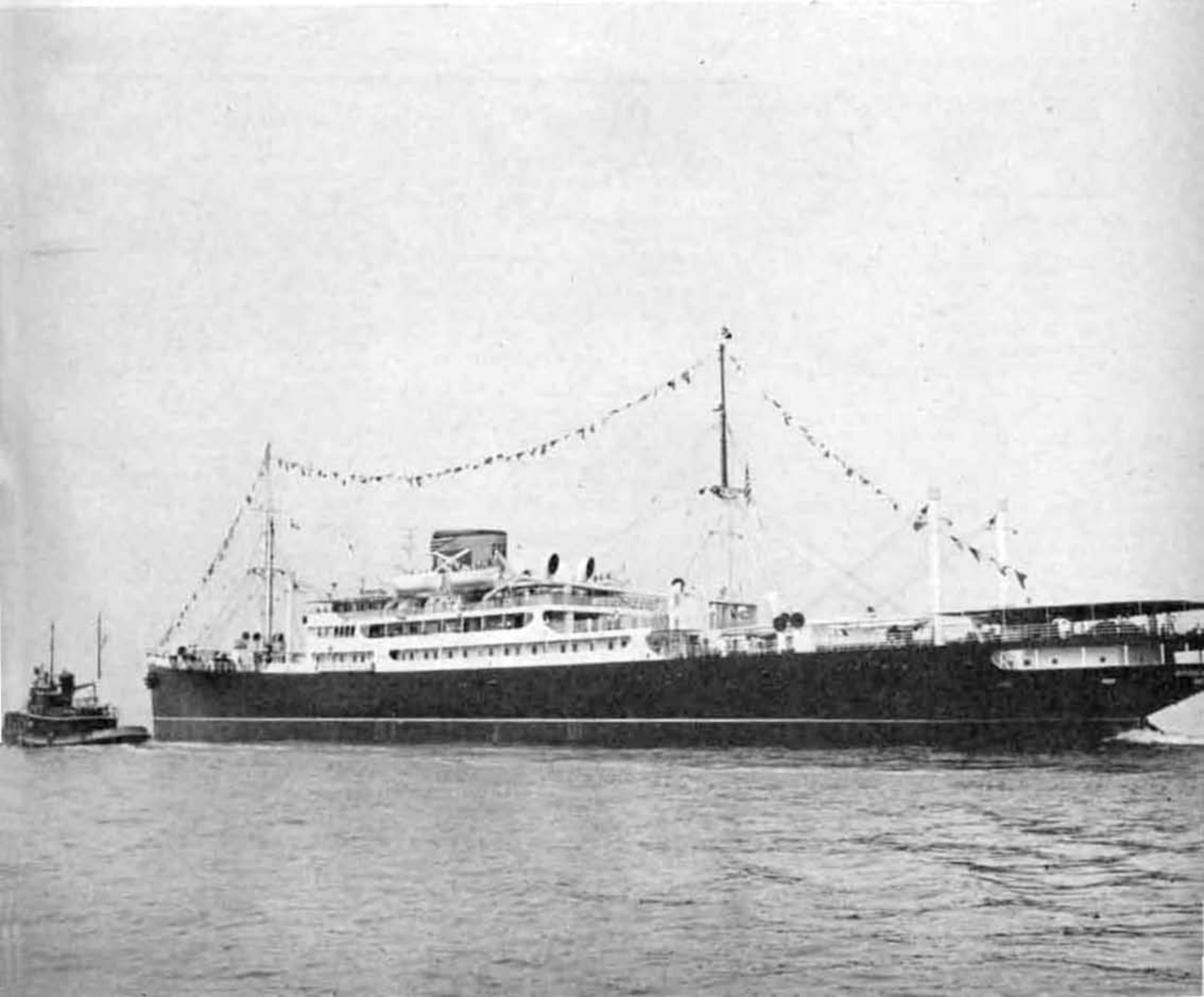
UNITED STATES COAST GUARD

The printing of this publication has been approved by the Director of the Bureau of Budget, March 17, 1949.

This copy for not less than 20 readers. PASS IT ALONG

CG-129

Vol. 7 May 1950 No. 5



Proceedings of the

MERCHANT MARINE COUNCIL

Published monthly at Coast Guard Headquarters, Washington 25, D. C., under the auspices of the Merchant Marine Council, in the interest of safety at sea. Special permission for republication, either in whole or in part, with the exception of copyrighted articles or pictures, is not required provided credit is given to the Proceedings of the Merchant Marine Council.

The Merchant Marine Council of the United States Coast Guard

CONTENTS

	Page
Use of Radar by Swedish Ships	62
Five Blast Fire Signal	65
Numbered and Undocumented Vessels	65
Correction	65
Lessons From Casualties:	
Another Boiler Casualty	66
The Right Way is the Safe Way	66
Are You a Doctor?	67
Extension Lights	68
Casualty Statistics	68
Appendix:	
Equipment Approved by the Commandant	69
Merchant Marine Personnel Statistics	70

Front Cover: S. S. *African Enterprise:* One of the newest arrivals to the Farrell Lines.

Back Cover: S. S. *Extavia:* A "Modified Exporter" type—company designed—16½ knot speed with a range of 12,000 miles. Photograph by *Palmer Pictures.*

Distribution (SDL 41):
A: a, b, c, d (2 ea.); remainder (1 ea.).
B: e (35 ea.); c (14 ea.); g, 1 (5 ea.); f (4 ea.); h (3 ea.); d (2 ea.); remainder (1 ea.).
C: All (1 ea.).
D: All (1 ea.).
E: m (1 ea.).
List 141M.

Use of Radar by Swedish Ships

Reports on the highly satisfactory use of Radar by Swedish ships have been received from the Swedish Chamber of Commerce, and are reproduced below.

The following is a summarised version of our general observations on the use of radar, which has now been installed in 39 vessels of the Broström Line.

THE USE OF RADAR BY SWEDISH SHIPS

The apparatus has come up to the owners' expectations generally, and although there have been temporary failures in all sets, the gradual acquisition of knowledge by the officers working them has increased the sets' serviceability as well as their usefulness.

Some of the sets fitted in Broström ships are of the 10 cm. type manufactured by Raytheon; others are 3 cm. R. C. A. and Westinghouse equipments. There is some divergence of opinion as to the comparative usefulness of the two wave lengths, but after some years of experience we have reached the conclusion that 3 cm. radar gives a clearer picture of the nearer surroundings and is therefore particularly useful for navigating rivers and among skerries and for coastwise navigation, while 10 cm. radar is more suitable in a high sea and during heavy squalls of rain, snow, and hail because the radar picture suffers less from the effects of clutter than does that of the other set.

It can be claimed, without exaggeration, that the installations have greatly increased safety in navigation and have also been the means of saving a good deal of ships' time. This gain has, of course, been greatest where fog and haze have been prevalent, particularly in the North Atlantic, North Sea, and Baltic; it has been achieved in the open sea, along the coast and in harbour approaches. Farther afield, too, extensive use has been made of radar—for example in the Eastern Mediterranean and in Chinese and Japanese waters, where navigation marks and lights are not yet fully restored since the war.

Radar has proved of great value, not only as an anti-collision device, but also as a reliable navigating instrument in making a landfall. Well-defined objects, floating as well as

---

This article is reprinted from Radio Aids to Marine Navigation, International News Letter No. 10, dated June 1949, and published in accordance with the recommendations of the First and Second Meetings on Radio Aids to Marine Navigation by Marine Safety Division, Ministry of Transport, Berkeley Square House, London W. 1, England, as an item of general interest and does not necessarily represent the views of the United States Coast Guard.

fixed, give correct range and bearing, but flat low-lying coasts and low floating objects at a distance are difficult to trace on the P. P. I.

The effectiveness of radar is particularly dependent on the good judgment of the navigator in all circumstances and on the state of sea and weather. But while much might be written on the efficacy of the device, we will content ourselves with quoting from one of our Shipmasters:

> Navigating without radar in fog or heavy rain, or during darkness close to land where no lights can be seen, can be compared with the plight of a man who has suddenly lost his sight. If it is blowing hard, he may even become deaf. He hears no sound signals and knows nothing of what may be moving about in the near vicinity. Through radar he can, as it were, be given back his power of sight and be enabled to navigate wisely without incurring too great a risk to ship, cargo and crew. Radar is the ship's superhuman eye.

With regard to the question of how often a radar set needs repair or a thorough inspection, this varies as much between individual sets as between differing types so that no general rule can be given. We can say that some of our radar installations have been used without failure up to one thousand hours, while others need considerable repair after a few hundred hours. Generally the trouble has been found to be due to faults in the valves, of which there are some 50 in each set.

In order to ensure maximum efficiency our sets are given a thorough overhaul each time the ships return to Gothenburg, in addition to undergoing any necessary repairs in foreign ports. In this connection we have found that, whereas expert service is obtainable in almost every large port in the world, it is not available in many smaller ports.

Report From the Master of Motorship "Froste"

The *Froste* arrived in Boston on February 22, 1948, and the shipbroker emphasized the absolute necessity for the ship to be loaded at the latest by February 29 for a trip South.

After communicating with New York about the quickest way of discharging at that port, it was agreed to pass through the Cape Cod Canal in order to gain 10 hours; and if possible to start discharging in New York on the morning of the following day. After going through the canal, we encountered dense fog, but with the help of radar we went ahead at full speed for 9 hours, after which the fog lifted. The ship commenced discharging in New York immediately. After discharging in New York on February 25, we proceeded straight to Philadelphia for final discharge. Two hours before reaching the Delaware River we met haze and dense fog. We contacted the pilot boat by radiotelephone and with the help of radar we reached the boat and received the pilot. Thereafter we proceeded at full speed up river, made fast at the allotted berth and commenced discharging without delay. On February 28, when discharging was complete at 5 p. m. and we were ready to return to New York, where we were scheduled to be by the 29th, the visibility was about a ship's length.

Thanks to radar and good cooperation from the pilot we left in good order and proceeded down the whole length of the river at full speed. On arrival at the pilot station we passed 14 ships lying at anchor, held up by fog. The pilot went with the ship to New York as it proved impossible for the pilot boat to find the ship. We reached New York at noon on February 29.

Two other instances worthy of mention took place in December of last year and January of this.

The first was on the occasion of our arrival at Paranagua on December 23, when navigation was endangered by thick haze. The only mark of approach to the bar is a lightbuoy. This was clearly seen on our radar at a distance of four to five miles. After the pilot had boarded, we proceeded the whole way up to Paranagua, navigating solely by radar.

The second instance was when, on leaving Buenos Aires on January 27, we met with a pampero shortly after departure. On account of the hurricane and torrent of rain, the ship was very difficult to handle in the narrow passages. The radar set proved to be an invaluable help, for we could see distinctly the buoys in the fairway as well as ships at anchor and those adrift.

EXPERIENCES WITH THE USE OF RADAR IN THE ICE-BREAKER SERVICE

The following is a precis of a report made by Hugo Larsson, civil engineer, on behalf of the Swedish Government about the use of radar in the Swedish ice-breaking service.

Object of the Trials

For the purpose of comparing results with the two wave lengths, 3 cm. and 10 cm., generally used in navigational radar, the Swedish Government has carried out systematic researches and experiments under winter conditions in Swedish waters. Two radar installations, each using one of these wave bands, were placed in the Government-owned ice-breaker *Ymer*, a ship which had to endure most severe trials during the long hard Swedish winter.

Installed in November 1947, the radar equipment was used during the whole ice-breaking campaign from November 28, 1947, to May 12, 1948.

Equipment Used

The radar sets selected for the trials were of American manufacture; both were typical examples of design for the appropriate wave length.

The aerials were installed relatively high up on the foremast, as it is always very important for the ice-breaker service to have a long operational range—to be able to find, for instance, a ship whose position is only approximately known. The 3-cm. radar had a fairly small, light aerial which was fixed 85 feet above the surface of the water and the 10 cm. aerial was fitted a little lower at about 70 feet.

The combined transmitter and receiver units were fixed in a convenient space in the forecastle just forward of the mast, so as to have as short an aerial lead-in as possible. This position imposed considerable strain on the equipment due to vibrations from the diesel engines and the oscillations of the forecastle as the ship forced its way through heavy ice. During the test period no ill-effects were observed as a result of this shaking.

Display units were fitted up in the chart-room so that quick comparisons could be made with the chart. An extra display unit for the 10-cm. set was fixed in the wheel-house so as to be easily accessible from the bridge.

Estimation of Type and Consistency of Ice by Means of Radar Screen Pictures

Flat surfaces of ice, like flat surfaces of water, gave no reflections on the screen; reflections appeared only when the ice surface was broken—the rougher the surface the stronger the reflections. When the motion of the sea broke up the ice it formed blocks with rectangular faces which froze together to form a large number of groups of surfaces mutually at right angles. The result was nothing short of a huge corner reflector assembly. A rugged ice surface of this type always gave very clear reflections up to a distance of 2 to 3 nautical miles. As the individual "reflectors" were of moderate size they were more noticeable with the 3-cm. set than with the 10 cm.; a clearer display was received, with more details, due to the greater power of resolution possessed by a 3-cm. set.

An intelligent use of the gain control, in conjunction with the control normally used for reducing sea clutter effects gave very exact impressions of ice field surface conditions. In this way a channel through firm ice could be distinguished. Even old channels covered by snow and invisible to the naked eye appeared on the screen. Pack ice patches frozen into fixed smooth ice fields appeared on the screen as islands of light on a dark sea. Generally a direct relationship was noticed between the "reflection factor"; i. e., the light intensity on the radar screen, and the resistance of the ice against the propulsion of the ice breaker. The darker the ice appeared, the greater the speed; the lighter the ice, the lower the speed.

After a little training it was found that the nature and consistency of the ice could be judged with greater accuracy by means of the radar displays. Firm ice could be distinguished from open water by the lack of sea clutter, even with a high gain setting. Ice formations like solid pack ice which were difficult to force could be distinguished from open water by the change in the appearance of the sea clutter, which was constantly being altered by the rotation of the aerial; reflections from ice always recurred at exactly the same points.

Drifting ice floes gave strong reflections, often at distances up to 3 to 4 nautical miles. Ice walls showed up on the screen as long, straight stretches as did the overhanging edge of ice formed by the actual breakage of the channel.

Navigation and Determination of Position by Means of Radar

Radar made navigation easier not only in darkness and bad visibility but in clear weather. When all floating seamarks had been withdrawn precise calculations of position were made from the radar display. Bearings at known distances from various landmarks were checked and it was found that accuracy to the order of 50 metres on a chart of scale 1: 50,000 was obtained. Risk of confusion in the landmarks selected was eliminated by taking bearings and calculating distances from several points in different directions. This process seldom took more than half a minute.

The identification of the radar display with the chart presented no difficulty. The art of reading the radar display without comparison with the chart was soon mastered. Care had to be taken in this matter for coastal contours might change their appearance through the formation of icebergs or towering blocks of pack-ice, and on long flat beaches ice might be stranded and blend in with the coastal contours. High factory chimneys and other tall objects, water towers and lighthouses, were used to take bearings but some skill in selecting these was needed.

Plotting Positions of Other Ships by Radar

When the ice breaker's position had been determined it was possible to calculate the position of other ships. The course, speed, and direction of the other ships could be ascertained by continual plotting. The movement of any ship after it had been located could thus be followed and a check kept on her position after the breaker had released her from the ice. When navigating in a channel with ice floes drifting about it was often difficult to distinguish between reflections from ice floes and from ships; fishing vessels and pilot cutters were particularly difficult to distinguish. Consequently a vessel with radar equipment is not relieved of the duty of proceeding cautiously and of giving the prescribed signals when visibility is bad.

Superintending Convoys by Means of Radar

For controlling the position of vessels in a convoy the 10-cm. wave length proved more satisfactory than the 3-cm. wave length. The reflections from rough ice favoured observations when the ice breaker was following her own course through the ice, but it caused difficulties when using the 3-cm. radar for ships which were nearest in the convoy; sea clutter likewise caused difficulties on open waters. As a rule the 3-cm. radar was adjusted for the best possible ice reflections to facilitate the navigating of the ice breaker itself; the 10-cm. equipment was then adjusted to cause the disappearance of the ice reflections so that ships in the convoy appeared plainly on the dark background.

The use of radar enabled the position of ships in a convoy and the position of one ship in relation to the others to be observed at any given moment. The ice breaker was thus able to adjust its speed to that of the vessel which found most difficulty in maintaining its place in the convoy.

Effects of Falling Snow With 3-cm. and 10-cm. Wave Lengths

Snow storms generally had no more effect than a correspondingly heavy rainfall. Although snow storms were reflected at distances up to 10 nautical miles with 3-cm. radar they seldom caused any trouble to navigation. Only on isolated occasions were the storms heavy and the effects could generally be dissipated by coupling in an F. T. C. circuit. With the 10-cm. equipment snow storms could be observed only on exceptional occasions and they could always be eliminated by using F. T. C.

Effects of Very Low Temperatures, Heavy Rolling, etc.

Low winter temperatures had in themselves no effects on high frequency radiation, yet it is essential that apparatus to be used in winter should be able to withstand extreme cold. At temperatures below −20° C. it was found that there was difficulty in rotating the antenna of the one set; the other was able to tolerate the lowest recorded temperature, −32° C., without any trouble.

Mechanical stability was satisfactory in both installations. Neither the violent shaking and vibration often encountered with proceeding through heavy ice nor rollers causing a list of 45° had any effect on the efficiency of the apparatus.

Conclusions

Radar is perhaps of greater assistance to ice breakers than to any other ships in civilian service. It can also help ships constructed for ice service and can often enable them to dispense with the services of an ice breaker. For vessels plying in open water a 10-cm. set would seem more useful in view of the limitations which strong sea-clutter imposes on the use of a 3-cm. set. For winter service the latter is better for estimating the character of ice conditions and this outweighs the disadvantage of sea-clutter reflections. On ice breakers a set of each type is recommended, the 3-cm. for ice navigation, the 10-cm. for calculating position and controlling a convoy. With the two installations one can relieve the other and a constant radar watch be maintained.

The results given were achieved during a Northern winter when visibility is usually bad; floating navigational marks, buoys and lightships were often frozen in or shifted from their proper locations. It was therefore of inestimable value to be able to take precise bearings, like those which were computed from radar echoes, to islands, capes and other identifiable fixed points. The search for ships whose position was only approximately known was facilitated and ships in convoy were successfully supervised by radar irrespective of visibility. The ice breaker was able to select the best passage through the ice fields by utilizing stretches of less solid ice, drift ice and rifts with open water. Thus time and energy were saved. If no easy passage was available the breaker had advance information of unfavourable conditions and could warn a convoy to reduce speed or to stop. This greatly reduced collision hazards in fog and darkness.

NOTE.—Due to lack of space, the illustrations accompanying this article could not be reprinted and all references thereto were omitted.

CORRECTION

In the article entitled "Motorboating for 1950—Holiday or Holocaust?" of the March 1950 issue of the "Proceedings" an omission was inadvertently made in Question 7 under the general heading "Hull." The sentence as corrected should read "Are the name and hailing port of your documented yacht displayed conspicuously on the hull and is the official number and net tonnage permanently marked or carved on the main beam? Yes. ☐ No. ☐

Numbered and Undocumented Vessels

The table below gives the cumulative total of undocumented vessels numbered under the provisions of the act of June 7, 1918, as amended (46 U. S. C. 288), in each Coast Guard district by Customs ports for the quarter ending March 31, 1950. Generally speaking undocumented vessels are those machinery-propelled vessels of less than 5 net tons engaged in trade which by reason of tonnage are exempt from documentation. They are also those motorboats and motor vessels of 5 net tons and over used exclusively for pleasure purposes which are not documented as yachts or those of less than 5 net tons which by reason of tonnage, are not entitled to be so documented.

Coast Guard District	Customs port		Total
1 (Boston)	(4) Boston	15,545	33,693
	(1) Portland, Maine	11,041	
	(2) St. Albans	2,831	
	(5) Providence	4,276	
2 (St. Louis)	(45) St. Louis	16,921	42,496
	(12) Pittsburgh	2,392	
	(34) Pembina	80	
	(35) Minneapolis	6,459	
	(40) Indianapolis	4,279	
	(42) Louisville	4,010	
	(43) Memphis (part)	7,777	
	(44) Vacant (Des Moines)	76	
	(46) Omaha (part)	496	
3 (New York)	(10) New York	47,754	77,201
	(6) Bridgeport	8,511	
	(11) Philadelphia	20,936	
5 (Norfolk)	(14) Norfolk	15,903	46,879
	(13) Baltimore	22,537	
	(15) Wilmington, N. C	8,439	
7 (Miami)	(18) Tampa (part)	22,492	28,297
	(16) Charleston	1,885	
	(17) Savannah	3,410	
	(49) San Juan	430	
	(51) St. Thomas	80	
8 (New Orleans)	(20) New Orleans	19,697	45,121
	(18) Tampa (part)	811	
	(19) Mobile	8,081	
	(21) Port Arthur	3,972	
	(22) Galveston	10,456	
	(23) Laredo	2,022	
	(24) El Paso	6	
	(43) Memphis (part)	76	
9 (Cleveland)	(41) Cleveland	14,046	90,976
	(7) Ogdensburg	6,567	
	(8) Rochester	8,647	
	(9) Buffalo	8,188	
	(36) Duluth	4,149	
	(37) Milwaukee	12,466	
	(38) Detroit	28,689	
	(39) Chicago	8,224	
11 (Long Beach)	(27) Los Angeles	8,551	10,359
	(25) San Diego	1,713	
	(26) Nogales	95	
12 (San Francisco)	(28) San Francisco	20,309	20,309
	(47) Denver	------	
13 (Seattle)	(30) Seattle	32,443	43,264
	(29) Portland, Oregon	9,793	
	(33) Great Falls	1,028	
	(46) Omaha (part)	------	
14 (Honolulu)	(32) Honolulu	3,369	3,369
17 (Juneau)	(31) Juneau	6,559	6,559
Grand total			448,517

FIVE-BLAST FIRE SIGNAL

*CALIFORNIA—PORT HUENEME—*Fire Signal for vessels not under way in the port of Port Hueneme—to become effective May 15, 1950:

RULE 1. FIRE SIGNAL: In the event of fire occurring on board any vessel in Port Hueneme Harbor, except vessels underway, such vessel may sound five prolonged blasts of the whistle or siren as an alarm indicating fire on board, or at the dock to which the vessel is moored. Such signal may be repeated at intervals to attract attention, and is not a substitute for, but may be used in addition to other means of reporting a fire. The words "prolonged blast" used in this rule shall mean a blast of from 4- to 6-seconds' duration. The signal is not to be used for other purposes in this harbor. *Excerpt from Notice to Mariners, No. 16–50, issued by Commander, Eleventh Coast Guard District, April 14, 1950.*

The complete list of ports having already adopted the five-blast whistle or siren signal was published in the "Proceedings of the Merchant Marine Council", Vol. 6, No. 12, December 1949.

Courtesy *Lykes Fleet Flashes.*

How to Make Soldering Safer

1. Always wear safety goggles or face shield.
2. Protect skin from spattering metal by keeping sleeves rolled down, collar buttoned, and wear gloves.
3. If used, solder pots must be thoroughly dry. Never put chilled or moist materials into molten metals.
4. Use approved iron rest. Never put hot iron on combustible surface.
5. Disconnect iron after it is used.
6. Apply flux or acid only to tip of soldering iron.
7. Be sure all explosive vapors have been removed before applying soldering iron to containers.
8. Don't test temperature of iron by holding it close to the face.
9. Do not snap or throw off surplus solder. Keep a dry rag at hand to wipe off excess molten metal.

LESSONS FROM CASUALTIES

ANOTHER BOILER CASUALTY

There occurred recently a boiler casualty which illustrates some points of interest to fireroom operating crews. The vessel was on a voyage to the east coast of the United States and the west coast and return via the Panama Canal.

The fuel supplied to the vessel in question was a very heavy variety of oil which required heating to a temperature of 228° F. in order to reduce the viscosity to 150 seconds Saybolt Universal. The latter is considered the optimum viscosity for the proper atomization of the fuel oil in the ordinary mechanical burner. On the westward voyage, it was found that the proper atomizing temperature of 228° F. could not be attained with the equipment on board and by the time the Panama Canal was reached, the air pressure in the furnaces had increased considerably and the superheater temperature had commenced to drop. This indicated that the gas passages were restricted, and, accordingly, permission was requested, after leaving the Canal, to clean the fireside of each boiler in turn. Upon opening the boilers a considerable yellowish deposit was discovered on the tubes. This deposit was assumed to be sulfur. The firesides of both boilers were scaled and water-washed and the vessel then proceeded to San Pedro, Calif. Smokeless combustion was maintained in spite of the difficulty in obtaining the proper temperature of the fuel oil, by feeding in excess air and cutting down the power developed by the boilers.

On the return trip combustion was maintained in the manner described above and the trip was otherwise uneventful until the vessel cleared the Panama Canal for New York. Soon after leaving the Canal heavy weather was encountered with wind varying from force four to nine. Shortly thereafter it was discovered that the boiler casings in several spots had been overheated and buckled. Precautionary measures were thereupon taken consistent with the safety of the vessel. Upon the conclusion of the voyage, an examination revealed that parts of the boiler casings and refractories were considerably damaged and one 4-inch side waterwall tube was damaged sufficiently to warrant its removal. The cost of repairs was approximately $12,000.

NATIONAL SAFETY COUNCIL

The use of excess air invariably results in an over-all lowering of furnace temperature. At first glance it would seem that this statement is inconsistent with the fact that localized overheating of the boiler demonstrably took place. However, the inconsistency is more apparent than real. What probably happened is that the deposit on the tubes noted by the chief engineer, and which was undoubtedly due to poor combustion, increased to the point where the gas passages were cut down markedly. This then directed the products of combustion toward the sides of the boiler instead of the uptakes. This, in turn, produced a "torching action" or a concentration of heating in one locality instead of throughout the furnace generally which resulted in overheating in specific localities.

It is thought that the engineering force of the vessel concentrated on correcting the results of the poor combustion experienced (plugging of the gas passages) instead of the cause thereof (inability to raise the temperature of the fuel oil to that necessary to reach the correct viscosity for proper atomization). It is evident that the tubes of the fuel oil heaters were coated with a deposit from the heavy fuel oil supplied on the voyage in question, or possibly from oil burned on previous voyages, to the extent that the rate of heat transfer between the steam and the fuel was dangerously reduced.

It appears to the Coast Guard that the proper approach to a solution of the problem encountered by this vessel would have been to clean the fuel-oil heaters or attempt in other ways to obtain the proper temperature. The cleaning of the boiler tubes was necessary, of course, but as shown by subsequent events would have had no effect on the poor combustion which could and did result in replugging of the gas passages.

There are several methods which have been successfully used in cleaning fuel-oil heaters. The commonest and quickest, although possibly not the most efficient, would be to isolate one of the heaters, break the fuel oil connections, and blow steam through the coils. If the deposits were not too firmly baked on, this method would probably do the trick. Another method which demands slightly more elaborate equipment would be to isolate one of the heaters as before and circulate some fuel-oil solvent, such as kerosene or one of the new cleaning compounds, through the heater until the tubes were clean. If, in spite of these measures, it still appeared impossible to reach the desired temperature, the oil in the settling tanks could have been heated by means of the tank heating coils to a temperature such that the fuel heaters could have raised it the remainder of the way to 228° F.

The oil supplied this vessel was undoubtedly such that some ingenuity was necessary in burning it safely and economically. However, it is thought that by application of one or the other of the measures described in the preceding paragraph a proper atomization temperature could have been attained. What actually happened, of course, was that the engineering force tackled the result of the trouble rather than the cause.

THE RIGHT WAY IS THE SAFE WAY

Many men believe that there is no need for them to wear protective equipment or to change to a safe method of doing a job. They say, quite truthfully, "I've been doing the job that way for years and never got hurt. Why should I change?"

Let's look around the ship. Take the lifeboats. The ship has been wearing those all her life and has never had to use them except under conditions wherein a single lifeboat would have served as well.

Why is it that a man who has never had a chip in his own eye won't wear goggles, but the fact that a ship had never sunk from under him would not persuade him to go to sea on a vessel that did not carry lifeboats?

Why is it that men will not even see or recognize a hazard until it sneaks up and clips them from behind? Offhand, one would think that a man walking around an engine room would see an open section where the floor plate had been removed. Reports show that this is not so. In fact there are cases in which the man who took up the floor plate later stepped into the hole. A Coast Guard floating unit recently reported such an accident.

The prevention of these accidents won't result from telling men to watch where they are going, but it can be done simply by stretching a line around the opening a foot or two back from the edge. When a man must stop to duck under the line, he will, in most cases, see the opening and avoid it.

The man who opens the floor plate should rig the line before he lifts the plate and take it down when the plate is replaced.

Of course, some potential causes of accidents can only be recognized by the human element and guarded in the mental processes of the individual—if he will allow himself to become safety-conscious. There are some hazards aboard ship that cannot be removed—such as open hatches, work aloft, wet decks in heavy weather, etc. Accidents from such causes can be avoided only through use of safety devices and exercise of the alertness and skill which distinguishes a seaman from a land-lubber.

But other hazards can be easily removed—oil leaks, broken hinges on a door, loose handrails, or poorly stowed or secured stores. When these are observed, some men just say, "That's going to hurt someone if somebody doesn't do something about it."

A real seaman would correct the condition himself or, if he was unable to do so, would call it to the attention of the cognizant officer so that corrective action could be taken before an accident occurred.

Safety is not something that just happens. Accidents do. It takes effort on the part of all hands to take proper precautions, furnish or obtain proper protective equipment, recognize hazards, and do every job the right way.

There's no doubt that some duties are hazardous; some jobs are more likely to result in accidents than others. If we all kept perfectly still and did nothing we could probably keep from sustaining injuries. But we could hardly be accused of performing our duties, either. Obviously our objective must be to get our jobs—whatever they happen to be—done with a minimum risk of accident under given conditions. If it is necessary for a ship to lower a boat in the teeth of a howling gale it is a job that has to be done, an unpleasant one, but one that finds every officer and man striving toward a single aim, straining to perform the operation in as safe a manner as is possible. So whatever is involved, whether it is lowering a boat or carrying a bucket of water up a ladder, keep in mind that "the right way is the safe way."

Know
Practice
Teach
SAFETY

ARE YOU A DOCTOR?

It has been said that "He who treats himself has a fool for a doctor." The same is magnified tenfold when a merchant seaman takes it upon himself to be both a sailor and a physician. The effect of self-treatment upon physical and mental processes is such as to cause hazards. The history of medicine has been marked by steady progression in the treatment of diseases and the preservation of health. During recent decades the normal life expectancy of an individual has been increased by more than 20 years. Many discoveries have been made—discoveries which led to improvement of general health.

For example, the story of sulfanilamides and of penicillin is known to almost every one; the amazing results achieved by insulin in diabetes and vitamin therapy in the deficiency diseases. All these wonders of medicine and many more are available to you. However, their use requires a little common sense. Education in medicine has brought its share of thoughtlessness and recklessness in the use of many stimulants and drugs easily available from sources other than the conventional sick bay.

Probably the greatest offenders of these easy-to-obtain items are alcoholic, nicotine, benezedrine, caffeine, sulfa drugs, and various aspirin compounds. All of these if given in small enough quantities over short periods of time are entirely harmless. It is only when used in excess or for prolonged intervals that dire effects are brought about in the body.

Alcohol as an astringent and disinfectant reduces body temperature by evaporation. Internally, it is a narcotic widely used as a stimulant but which may do more harm than good. Usually the stimulation is temporary and is followed eventually by various stages of mental depression, stupor, and occasional coma. The effect upon vision is extreme as evidenced by blurring, spots before the eyes, and double negatives. Caffeine is a very effective stimulant found in appreciable quantities in coffee, tea, and cola beverages. It has an important use in medicine as a respiratory, heart and physics stimulant and as such has saved many lives. However, excessive and continued use leaves marked characteristics upon the nervous system and blood vessels.

Benzedrine sulphate is another stimulating drug, extremely potent now famous among various occupations for its ability to delay the desire for sleep. It should be used only on the advice of a medical doctor who will prescribe the correct dosage.

Nicotine probably has the widest usage of the entire group because of the world wide adoption of smoking as a habit. Suffice to say that when the intake of tobacco smoke is excessive, the amount of nicotine absorbed by the body may be large enough to cause definite changes in ones nervous and circulatory system. Extreme nervousness, visual disturbances, and insomnia may result.

Self medication with many sulfa drugs now offered for sale is increasing day by day and the complications due to incorrect dosage of sulfanilamides becomes alarmingly severe and occasionally fatal. In addition to nausea, vomiting, and double vision it may cause skin rashes and crystallization in the kidneys to such an extent as to obstruct the flow of any fluids temporarily or permanently. Indiscriminate and repeated use of sulfas for minor colds and sore throats results in susceptibility to pneumonia. This will result in the sulfa drug being powerless to combat the germs now well accustomed to the drug.

Aspirin and allied compounds in repeated or overdosages have been shown to cause "oxygen want" in a manner like unto alcohol.

The human body is an essentially

more complex mechanism than is a merchant vessel. The tools for its servicing and repair are valuable. Properly used they will be of tremendous value in the preservation of health and the treatment of illness. Improperly used they may cause irreparable damage. For your own sake, do not self-medicate.

EXTENSION LIGHTS

An extension light is as much a tool as any wrench, hammer, or saw that might be found in a tool kit. Too often, though, it is not thought of in this manner and, as a result, is subjected to much thoughtless and careless handling by the very people who are meticulous in the care of their other tools.

This forgotten tool, which is often the only possible source of light in many locations, will give long and dependable service, with complete safety, if the following few precautions are observed:

DON'T improvise or use makeshift extension lights. Metallic sockets, improper wire, and worn insulation increase the hazard of getting a shock.

Always use a well-guarded lamp. If flammable liquids, vapors, or dusts are present, make sure that you are using a safe type of lamp and guard; ask your supervisor if you are not entirely sure.

Avoid using a lamp with frayed or badly worn extension cord, loose connections, or a broken plug or socket.

Do not try to patch the insulation of a defective cord; get a new cord.

If the cord is too short to reach the necessary distance, do not splice it; get a new cord or another extension.

It is bad practice to pull on the cord to disconnect a wall plug; the wires may be loosened or pulled free from the socket.

Pulling a cord by the lamp socket is bad practice, because the cord may catch and be pulled free.

Dragging a cord over nails, hooks, tools, or other sharp edges may cause cuts in the insulation and short circuits; if flammable vapors or dusts are present, an explosion may result.

Do not allow the extension cord to touch acids, oil, solvents, or even water unless it has a proper kind of insulation to protect it. *Courtesy, Safety Review, Department of the Navy.*

CASUALTY STATISTICS

A compilation of the casualty statistics for the fiscal year 1949 (July 1, 1948, to June 30, 1949) is reprinted in tabular form below. This tabulation is made on the basis of casualty cases closed as of September 30, 1949.

Casualties to Vessels, Fiscal Year 1949

[July 1, 1948—June 30, 1949]

	Groundings and founderings	Collisions with other vessels	Collisions with miscellaneous objects	Fires and explosions	Damage to lifesaving equipment	Heavy weather and matériel damage	Totals
Number of casualties	699	436	434	214	31	329	2,143
Number of vessels involved	699	888	434	214	31	329	2,595
Gross tonnage of United States merchant vessels involved	3,181,850	2,024,612	2,034,941	424,969	237,068	2,099,068	10,002,508
Number of inspected vessels involved	482	422	366	66	30	297	1,663
Number of uninspected vessels involved	217	466	68	148	1	32	932
Type of vessels involved:							
Passenger	19	18	15	7		20	79
Freight	301	214	202	33	28	165	943
Tank vessels	155	164	105	21	3	95	543
Public vessels		33					33
Ferry	13	14	27	2		11	67
Towing	49	127	56	21		17	270
Fishing	109	71	12	67		17	276
Foreign flag		70					70
Miscellaneous	53	177	17	63		4	314
Persons on board:							
Passengers	2,143	3,017	5,288	1,054	13	5,099	16,614
Crew	18,185	12,407	13,050	2,857	1,237	13,019	60,755
Value of property involved:							
Vessels	$744,614,095	$463,413,520	$472,064,794	$122,710,237	$54,168,000	$498,303,121	$2,355,273,767
Cargoes	$120,747,758	$78,912,077	$47,281,629	$15,261,956	$9,557,340	$90,981,308	$362,742,068
Number of vessels that did not report value	126	149	22	10	1	7	315
Number of cargoes that did not report value	130	205	72	19	17	67	510
Damages reported:							
Vessels	$14,434,574	$4,679,682	$2,124,415	$4,081,762	$68,429	$2,252,293	$27,641,155
Cargoes	$560,472	$701,876	$18,371	$396,810	0	$605,358	$2,282,887
Number of vessels that did not report damage	20	103	11	9	3	12	158
Number of cargoes that did not report damage	10	109	6	5	3	10	143
Vessels totally lost:							
Inspected	5	4	1	4			14
Gross tonnage	15,029	2,981	107	842			18,959
Uninspected	105	27	7	81			220
Gross tonnage	3,213	1,744	77	3,736			8,770
Number of casualties due to personnel fault:							
Employed under license or certificate	52	44	28		1	7	132
Others	40	93	21	12		3	169
Lives lost in casualties:							
Passengers:							
Off inspected vessels	0	1	0	0	0	0	1
Off uninspected vessels	45	1	2	17	0	2	67
Crew:							
Off inspected vessels	3	12	0	3	2	1	21
Off uninspected vessels	66	30	5	20	0	7	128
Assistance rendered by U. S. Coast Guard	68	18	1	35	0	14	136
Deaths not involving casualty to vessel:							
Passengers	62						
Crew	278						
Stevedores	[1] 7						

[1] Workmen.

NOTE.—Injuries to personnel not involving casualty to vessel: Number of personnel incapacitated for more than 72 hours, 296. Tabulation made on basis of casualty cases closed as of Sept. 30, 1949.

APPENDIX

Equipment Approved by the Commandant

WELDING ELECTRODES

The following type of electrode has been tested in accordance with the requirements of ASTM designation A233-48T for mild steel arc-welding electrodes in the presence of an American Bureau of Shipping Surveyor and the test report indicates that the requirements were met.

Harnischfeger Corp., 4400 West National Avenue, Milwaukee 14, Wis. *Harnischfeger Corp.* (Manufacturer), 80LE (1 Cr–½Mo), AWS Symbol E7015.

OPERATING POSITIONS AND ELECTRODE SIZES

The 3/32'', 1/8'', and 5/32'' diameter electrodes will be allowed for all position welding. The 3/16'', 7/32'', and 1/4'' diameter electrodes will be allowed for horizontal fillet and flat position welding. The 5/16'' diameter electrode will be allowed for flat position welding.

FUSIBLE PLUGS

The Marine Engineering Regulations and Material Specifications require that manufacturers submit samples from each heat of fusible plugs to the Commandant for test prior to plugs manufactured from the heat being used on vessels subject to inspection by the Coast Guard. A list of approved heats which have been tested and found acceptable during the period from January 15, 1950, to April 15, 1950, is as follows:

The Lunkenheimer Co., P. O. Box 360 Annex Station, Cincinnati 14, Ohio. Heats Nos. 350, 351, and 352.

ELECTRICAL APPLIANCES

The following list suplements that published by the United States Coast Guard under date of May 15, 1943, entitled "Miscellaneous Electrical Equipment Satisfactory for Use on Merchant Vessels," as well as subseqently 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 (MMT), United States Coast Guard Headquarters, Washington 25, D. C., duplicate copies of a detailed assembly drawing, including a material list with finishes of each corrosive part of each item.

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	
Murlin Mfg. Co., Philadelphia, Pa.:					
Ceiling light, nonwatertight, 1 32-watt circline fluorescent lamp and 2 7-watt incandescent lamps, 110–125 volts AC only, dwg. no. 1377/1377A, alt. 2	x				3/2/50
Desk lamp, nonwatertight, 1 8-watt fluorescent lamp, 110–125 volts AC only, dwg. no. 1446, alt. 0	x				3/2/50
Mirror light, nonwatertight, 1 14-watt fluorescent lamp, 110–125 volts AC only, dwg. no. 1462, alt. 0	x				3/2/50
Berth light, nonwatertight, 1 6-watt fluorescent lamp, 110–125 volts AC only, dwg. no. 1463, alt. 0	x				3/2/50
Sig-Trans, Inc., Amesbury, Mass.:					
Electric telegraph indicator, internal units, types 1, 2, 3, and 4, dwg. No. B–100, alt. 1					3/22/50
Electric telegraph transmitter, internal unit, dwg. no. B–102, alt. 1					3/22/50
Electric telegraph constant ringing and trouble relay, watertight, dwg. no. E–100, alt. 1	x	x	x		3/22/50
Bell and lamp indicator, types 3 and 6, watertight, 115 volts AC or DC, dwg. no. H–100, alt. 2	x	x	x		3/22/50
Rudder angle transmitter, ratio 1 to 4, watertight, 115 volts AC	x	x			3/22/50
The Simes Co., College Point, Long Island, N. Y.:					
Illuminated sign light, nonwatertight, 1 25-watt lamp max., dwg. no. 44086, alt. 0	x				2/9/50
Term-Marine Corp., New York, N. Y.:					
Male terminal tubes, brass, cat. nos. M–038, ¾ ips, to M–300 ,3 ips, incl	x	x	x		2/13/50
Female terminal tubes, brass, cat. nos. F–038, ¾ ips, to F–312, 3½ ips, incl	x	x	x		2/13/50
Stuffing tubes, brass, type A, cat. nos. S–038A, ¾ ips, to S–300A, 3 ips, incl	x	x	x		2/13/50
Stuffing tubes, brass, type B, cat. nos. S–038B, ¾ ips, to S–212B, 2½ ips, incl	x	x	x		2/13/50
Stuffing tubes, brass, type C, cat. nos. S–038C, ¾ ips, to S–212C, 2½ ips, incl	x	x	x		2/13/50
Crouse-Hinds Co., Syracuse, N. Y.:					
Searchlight, pilothouse control, watertight, cat. no. 44367–B, for 100W, 12V lamp, cat. no. 44366–B, for 250W, 115V lamp, cat. no. 44365–B, for 50W, 6V lamp, dwg. no. 90–KH, alt. 0	x	x	x		2/8/50
Searchlight, pilothouse control, watertight, cat. no. 44361–B, for 100W, 12V lamp, cat. no. 44360–B, for 250W, 115V lamp, cat. no. 44359–B, for 50W, 6V lamp, dwg. no. 89–KH, alt. 0	x	x	x		2/8/50
The L. C. Doane Co., Essex, Conn.:					
Pedestal assembly for desk light fixture no. 60, dwg. no. B–30, alt. 0	x				4/10/50
Overhead lighting fixture, nonwatertight, 3 8-watt fluorescent lamps, 110–125V AC only, dwg. no. 939B & C, alt. 0	x				4/10/50
Overhead lighting fixture, nonwatertight, 4 8-watt fluorescent lamps, 110–125V AC only, dwg. no. 942, alt. 0	x				4/10/50
Henschel Corp., Amesbury, Mass.:					
Mechanical telegraph wrong direction signal contacts, 115 volts max., watertight, dwg. no. 11–119, alt. 3	x	x			3/6/50
General alarm contact maker, types B & C, watertight, dwg. no. 60–017, alt. 8	x	x			4/14/50
Luminator, Inc., New York, N. Y.:					
Ceiling fixture, nonwatertight, 1 100-watt lamp max., fixture no. L–9146, dwg. no. 9146, alt. 2	x				3/14/50
Table lamp, nonwatertight, 1 100-watt lamp max., fixture no. L–9155, dwg. no. 9155, alt. 3	x				3/14/50
Toilet case light, nonwatertight, 1 50-watt lamp max., lamp max., dwg. no. 9154, alt. 2	x				1/31/50
Desk lamp, nonwatertight, 2 25-watt lamps max., for mounting on incombustible material only, dwg. no. 9145, alt. 1	x				1/31/50
Ceiling fixture, nonwatertight, 1 50-watt lamp max., fixture nos. L–9150 and L–9151, dwg. no. 9150, alt. 2	x				1/31/50
Desk light, nonwatertight, 1 50-watt lamp max., dwg. no. 9145, alt. 2	x				1/31/50
Berth light, nonwatertight, 1 25-watt lamp max., dwg. no. 9152, alt. 2	x				1/31/50

AFFIDAVITS

The following affidavits were accepted from March 15 to April 14, 1950:

The Babcock & Wilcox Tube Co., Welded Tube Division, Alliance, Ohio. Ferrous pipe and tubing.

Mercury Foundry, Inc., 2621 West Fort Street, Detroit 16, Mich. Castings.

Pacific Valves, Inc., 3201 Walnut Avenue., Long Beach 7, Calif. Valves and fittings.

Rockwood Sprinkler Co., 38 Harlow Street, Worcester 5, Mass. Valves and fittings.

The following affidavits were canceled:

Pacific Valve and Pump Co., 2976 Cherry Avenue, Long Beach 6, Calif. Valves and fittings.

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of Ships' Stores and Supplies certificated from March 25 to April 25, 1950, inclusive, 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:

Residex Corp., Foot of Centre Street, Newark 2, N. J., Certificate No. 305, dated April 6, 1950. "Residex No. 2."

Residex Corp., Foot of Centre Street, Newark 2, N. J., Certificate No. 306, dated April 6, 1950. "Safticide."

"Allright" Chemical Co., 607 West 138th Street., New York 31, N. Y., Certificate No. 307, dated April 7, 1950. "Spray-wonder."

TERMINATION OF APPROVAL OF POWER BOILER

[CGFR 50-10]

A notice regarding the proposed termination of approval No. 162.002/32/0, power boiler Cyclotherm steam generator, type MC-80, granted to the General Furnaces Corp., was published in the FEDERAL REGISTER dated February 17, 1950, 15 F. R. 872, and a public hearing was held by the Merchant Marine Council on March 28, 1950, at Washington, D. C.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by R. S. 4405, 4417a, 4429-4433, 4491, 49 Stat. 1544, and sec. 5 (e), 55 Stat. 244, as amended, 46 U. S. C. 367, 375, 391a, 407-411, 489, 50 U. S. C. 1275, and sec. 101 of Reorganization Plan No. 3 of 1946, 11 F. R. 7875, 60 Stat. 1097, 46 U. S. C. 1, the following termination of approval is prescribed:

BOILER, POWER

Termination of Approval No. 162.-002/32/0, Cyclotherm steam generator, type MC-80, horizontal fire tube steam boiler, welded shell and firebox, Dwg. Nos. C-549-E dated 15 June 1944 and C-551-D dated 16 June 1944, material, design, and construction in conformance with U. S. Coast Guard Marine Engineering Regulations and Material Specifications, Parts 51, 52, and 56, approved for type design only, manufactured by Ames Iron Works Division of General Furnaces Corp., 90 Broad Street, New York 4, N. Y. (Approval published in FEDERAL REGISTER dated July 31, 1947, 12 F. R. 5221.)

CONDITIONS OF TERMINATION OF APPROVAL

The termination of approval of equipment made by this document shall be made effective upon the thirty-first day after the date of publication of this document in the FEDERAL REGISTER. Notwithstanding this termination of approval on any item of equipment, such equipment in use on merchant vessels on the effective date of termination of approval may be continued in service so long as it is in good and serviceable condition.

Dated: April 19, 1950.

[SEAL] A. C. RICHMOND,
Rear Admiral, U. S. Coast Guard,
Acting Commandant.

[F. R. Doc. 50-3418; Filed, Apr. 24, 1950; 8:48 a. m.; 15 F. R. 2289, Apr. 24, 1950]

The Hand of Danger is Composed of Five Fingers

Electric shock
Burns
Powerful arc light
Bad air
Explosions

Remember, safety first below the belt.

Merchant Marine Personnel Statistics

INVESTIGATING UNITS

Coast Guard Merchant Marine investigating units and Merchant Marine details investigated a total of 485 cases during the month of March 1950. From this number, hearings resulted involving 17 officers and 42 unlicensed men. In the case of officers, 1 license was revoked, 3 were suspended, 7 were suspended with probation granted, 2 were voluntarily surrendered, 3 cases were dismissed after hearing and 3 hearings were closed with an admonition. Of the unlicensed personnel, 1 certificate was revoked, 8 were suspended, 12 were suspended with probation granted, 9 were voluntarily surrendered, 3 were closed with an admonition and 4 were dismissed after hearing.

WAIVERS OF MANNING REQUIREMENTS FROM MARCH 1 TO MARCH 31, 1950

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 desk officers	Total
Atlantic coast	----	----	----	----	----	----	----	----	----	----
Gulf coast	----	----	----	----	----	----	----	----	----	----
Pacific coast	----	----	----	----	----	----	----	----	----	----
Great Lakes	----	----	----	----	----	----	----	----	----	----
Total	----	----	----	----	----	----	----	----	----	----

NOTE.—In addition, no individual waivers were granted to permit the employment of able seamen holding certificates for "any water—12 months" in excess of the 50 percent authorized by general waiver.

MERCHANT MARINE LICENSES ISSUED DURING MARCH 1950

DECK OFFICERS

		Region								Total	
		Atlantic coast		Gulf coast		Great Lakes and rivers		Pacific coast			
		O	R	O	R	O	R	O	R	O	R
Master	Ocean	20	92	2	19	0	2	10	57	32	170
	Coastwise	4	9	1	4	0	4	1	0	6	17
	Great Lakes	0	2	0	0	12	54	0	1	12	57
	B. S. & L.	10	60	3	0	0	1	1	11	14	72
	Rivers	2	3	1	12	2	23	2	1	7	39
Chief mate	Ocean	22	49	9	13	0	3	13	23	44	88
	Coastwise	0	1	0	0	0	0	0	0	0	1
Second mate	Ocean	20	59	5	6	0	9	4	31	29	105
	Coastwise	0	0	0	0	0	0	0	0	0	0
Third mate	Ocean	4	36	3	7	0	11	2	27	9	81
	Coastwise	0	0	0	0	0	0	0	0	0	0
Mate	Great Lakes	0	0	0	0	0	0	0	0	0	0
	B. S. & L.	4	6	0	0	0	2	1	4	5	12
	Rivers	0	1	0	3	5	6	0	0	5	10
Pilots	B. S. L. & R.	95	146	27	28	65	123	13	45	200	342
Master	Uninspected vessels	0	1	0	0	0	0	1	8	1	9
Mate	Uninspected vessels	1	1	0	0	0	0	3	0	4	1
Total		182	466	51	92	84	238	51	208	368	1,004
Grand total		648		143		322		259		1,372	

ENGINEER OFFICERS

		Atlantic coast O	Atlantic coast R	Gulf coast O	Gulf coast R	Great Lakes and rivers O	Great Lakes and rivers R	Pacific coast O	Pacific coast R	Total O	Total R
Steam	Chief engineer:										
	Unlimited	14	130	3	35	3	15	5	76	25	256
	Limited	4	61	1	7	12	75	1	5	18	148
	First assistant engineer:										
	Unlimited	15	46	3	15	1	5	7	21	26	87
	Limited	1	3	0	0	9	28	0	2	10	33
	Second assistant engineer:										
	Unlimited	24	88	6	16	2	24	6	39	38	167
	Limited	0	0	0	0	2	9	0	0	2	9
	Third assistant engineer:										
	Unlimited	10	74	8	14	8	32	9	55	35	175
	Limited	0	0	0	0	20	1	0	0	20	1
Motor	Chief engineer:										
	Unlimited	3	24	1	4	2	11	2	30	8	69
	Limited	10	52	5	13	5	8	6	18	26	91
	First assistant engineer:										
	Unlimited	0	5	0	1	1	1	4	2	5	9
	Limited	4	0	0	0	1	0	2	0	7	0
	Second assistant engineer:										
	Unlimited	0	6	0	1	0	3	0	2	0	12
	Limited	0	0	0	0	0	0	1	0	1	0
	Third assistant engineer:										
	Unlimited	1	87	2	16	0	28	1	55	4	186
	Limited	0	0	0	0	0	0	0	0	0	0
Uninspected vessels	Chief engineer	0	0	0	0	0	0	3	4	3	4
	Assistant engineer	0	1	0	0	0	0	8	1	8	2
Total		86	577	29	122	66	240	55	310	236	1,249
Grand total		633		151		306		365		1,485	

ORIGINAL SEAMEN'S DOCUMENTS ISSUED MONTH OF MARCH 1950

Region	(1) Staff officer	(2) Continuous discharge book	(3) U. S. merchant mariner's documents	(4) AB any waters unlimited	(5) AB any waters 12 months	(6) AB Great Lakes 18 months	(7) AB tugs and towboats any waters	(8) AB bays and sounds [1]	(9) AB seagoing barges	(10) Lifeboatman	(11) Q. M. E. D.	(12) Certificate of service	(13) Tankerman
Atlantic coast	32	69	357	109	45	4	----	----	----	184	84	339	9
Gulf coast	7	8	325	42	11	----	----	----	----	28	73	289	24
Pacific coast	8	3	148	41	15	4	----	----	----	58	32	119	1
Great Lakes and rivers	1	1	787	17	56	35	----	----	----	52	79	745	14
Total	48	81	1,617	209	127	43	0	0	0	322	268	1,492	48

[1] 12 months, vessels 500 gross tons or under not carrying passengers.

NOTE.—Columns 4 through 14 indicate endorsements made on U. S. merchant mariner's documents.

CONSTANT VIGILANCE IS THE PRICE OF SAFETY

Good Seamanship Means:

- *Doing What the Other Fellow expects you to do before he has time to prevent it
- *Taking your vessel where it is safe, when it is safe at the speed of a prudent seaman

U. S. GOVERNMENT PRINTING OFFICE: 1950