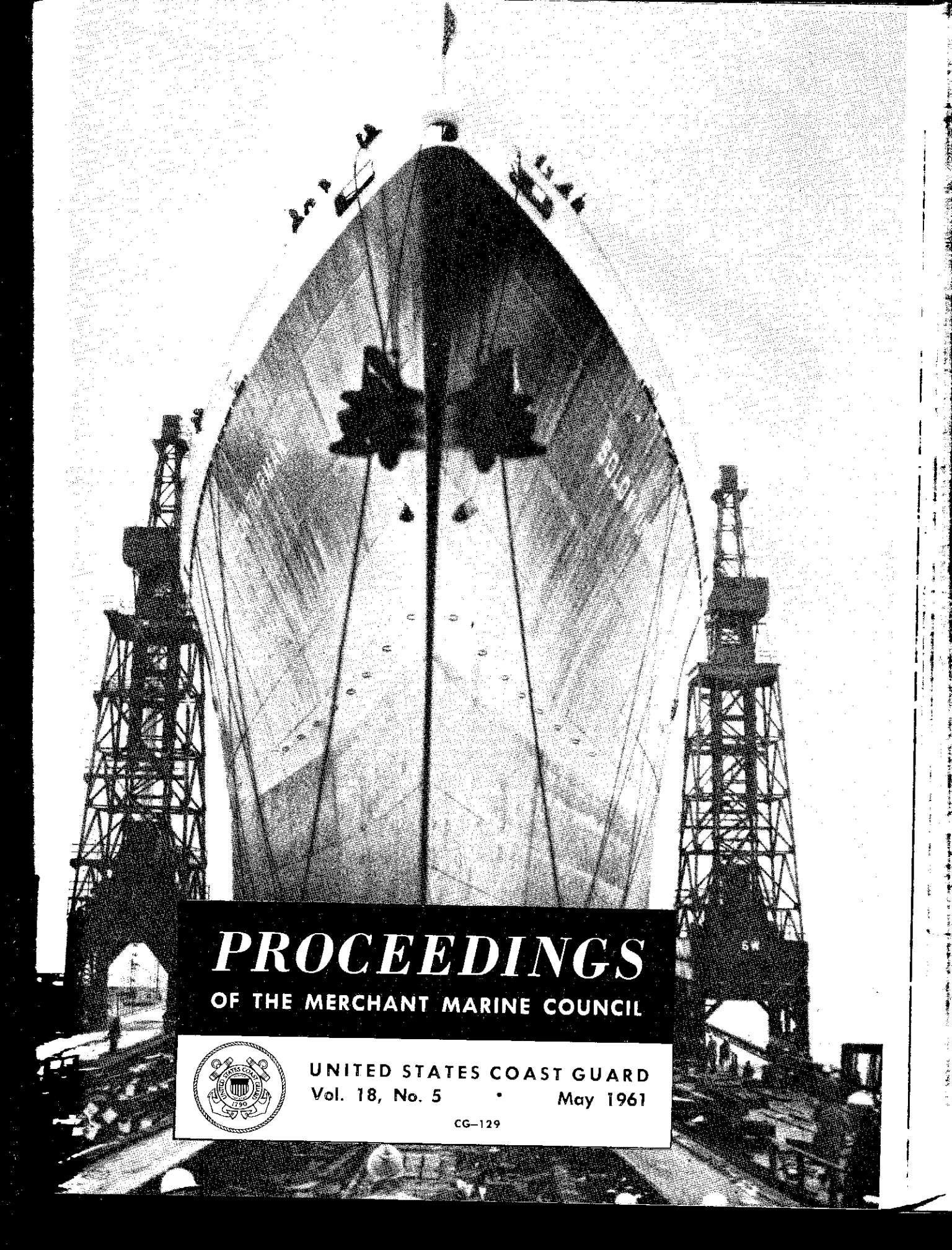


A black and white photograph of a large ship's hull being lifted by two cranes at a shipyard. The hull is the central focus, showing rivets and structural details. The cranes are on either side, and the background shows the shipyard environment.

PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL



UNITED STATES COAST GUARD
Vol. 18, No. 5 • May 1961

CG-129

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. Use of funds for printing this publication has been approved by the Bureau of the Budget October 3, 1957.

The Merchant Marine Council of
The United States Coast Guard

This Copy FOR NOT LESS THAN
20 Readers PASS IT ALONG

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FRONT COVER

The SS *Solon Turman*, christened by Mrs. Lyndon B. Johnson, wife of the Vice President of the United States, slides down the ways at Bethlehem's Sparrows Point Yard. Photo courtesy Bethlehem Steel Co.

BACK COVER

Four illustrations depicting crises in the lives of the safety-unconscious by Grandon Seal of Pacific Maritime Association.

DIST. (SDL NO. 72)

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B: n (35); c (16) e (5); f (4); h (3); g (2); remainder (1)
C: a b (less Quonset Pt.) c d e f g i k (p only) m o u (1)
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List 111

PROCLAMATION 3403

NATIONAL MARITIME DAY, 1961

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

WHEREAS the American Merchant Marine is a major factor in maintaining the economy of the Nation through serving the peacetime commerce of the United States; and

WHEREAS American-flag shipping is essential to the defense of this and other nations of the free world and to the cause of freedom on every continent; and

WHEREAS American merchant ships and the men who sail them implement our national policy of providing food and supplies to the famished and stricken of the world when the need arises; and

WHEREAS the Congress, by a joint resolution approved May 20, 1933 (48 Stat. 73), designated May 22 as National Maritime Day, in commemoration of the departure from Savannah, Georgia, on May 22, 1819, of the S.S. *Savannah* on the first trans-oceanic voyage by any steamship, and requested the President to issue a proclamation annually calling for the observance of that day; and

WHEREAS the world's first nuclear-powered merchant ship, named the N.S. *Savannah* in honor of the first *Savannah*, will put to sea this year, demonstrating for all peoples the intention of this Nation to use atomic power for peaceful purposes:

NOW, THEREFORE, I, JOHN F. KENNEDY, President of the United States of America, do hereby urge the people of the United States to honor our Merchant Marine on Monday, May 22, 1961, by displaying the flag of the United States at their homes or other suitable places; and I direct the appropriate officials of the Government to arrange for the display of the flag on all Government buildings on that day.

I also request that all ships sailing under the American flag dress ship on the twenty-second day of May in tribute to the American Merchant Marine.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the United States of America to be affixed.

DONE at the City of Washington this fifth day of April in the year of our Lord nineteen hundred and sixty-one, and of the Independence of the United States of America the one hundred and eighty-fifth.

JOHN F. KENNEDY

By the President:
DEAN RUSK,
Secretary of State.

Excerpts from remarks made by Vice Adm. Ralph E. Wilson, USN (Ret.), then Chairman, Federal Maritime Board, and Maritime Administrator, U.S. Department of Commerce, at the Launching of the SS *Solon Turman* for Lykes Bros. Steamship Co., Inc., at Bethlehem Steel Co. Sparrows Point Yard, Sparrows Point, Md., January 24, 1961)

The *Solon Turman*, launched a short time ago, represents a much-needed modern addition to our aging merchant fleet.

We all recognize the urgent necessity for replacing our old ships.

Since the days of the Phoenicians, navigators and seafaring folk have thought in terms of omens which attach to the ships they sail. If the omens are good, they are content there will be fair sailing ahead.

Rarely has a ship had such an impressive array of good omens as the *Solon Turman*.

She has been properly sponsored by a gracious and most distinguished lady.

She has been constructed truly and well by one of America's most skillful shipyards.

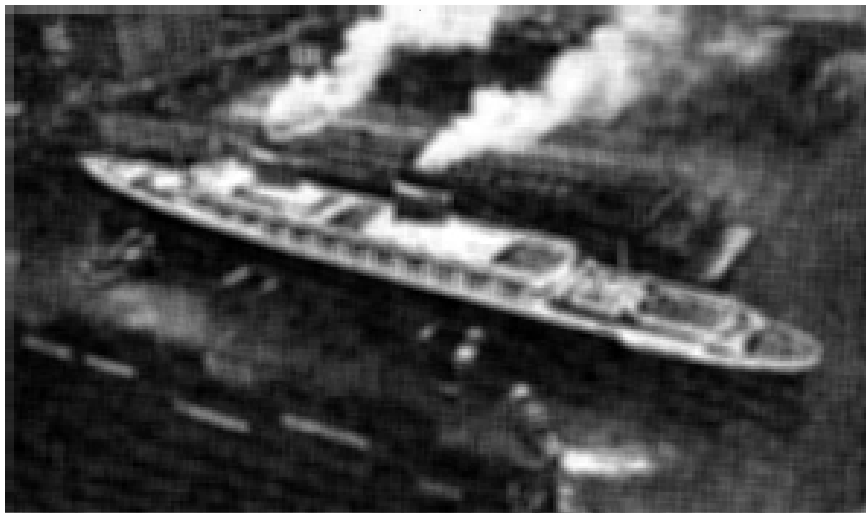
She will be owned and operated by one of our steamship companies known around the world for its skill and good management.

She is named for the distinguished head of that Line, who is respected as a truly senior statesman by all segments of the maritime industry.

If this were not enough, there are other good omens too. In her plates there is the melted-down steel from the SS *Patrick Henry*, America's first Liberty ship, which was built by Bethlehem in Baltimore and operated by Lykes. The *Patrick Henry* established a proud war record, including the suicide runs to Murmansk and Archangel, and voyages to the African and Mediterranean areas. Worn out and outdated, she has been through the scrapping process here at Bethlehem, only to live again in this fine new ship.

Finally, because of her distinguished sponsor (and the presence here of the Vice President of the United States), she acquires the stamp of Texas, the one State amongst all the 50 that so firmly believes in ships and seapower that she has traditionally possessed the right to maintain her own navy.

Surely a ship with so many good omens cannot help but serve her owners and her country long and well. We can only add our sincere best wishes to the *Solon Turman*, her officers and crew, for smooth sailing and great success always.



SS UNITED STATES

The United States Lines' fleet of 2 passenger liners and 53 cargo vessels achieved an outstanding record for crew safety during 1960, for the second consecutive year, with only 73 reportable injuries among an average fleet personnel strength of some 4,400 officers and seamen.

Capt. Jones F. Devlin, vice president in charge of operations for the company, who made the announcement, said that the 73 cases represented an accident-frequency rate of 2.03 injuries per 1 million man-hours worked in 1960.

This compared to 65 reportable injuries and an accident-frequency rate of 2.04 injuries per 1 million man-hours worked in 1959. The lower accident-percentage rate in 1960, despite an increased number of reportable cases, is explained by the fact the company's fleet made 390 voyages last year—7 more than in 1959—with a resultant greater number of man-hours worked.

Reportable injuries are those incurred in line of duty and which prevent the seamen from meeting their next schedule work assignment or watch.

Captain Devlin singled out seven ships and their officers and crews for particular praise. These were the SS *American Reporter*, which completed 3 consecutive years without a single reportable time-lost injury, and the *American Banker*, *American Leader*, *American Ranger*, *American Harvester*, *American Builder*, and the *Pioneer Tide*, which completed 2 consecutive years.

He also paid tribute to the officers

and crews of seven other vessels including the luxury liner *America*, who sailed the entire year of 1960 without a single reportable injury.

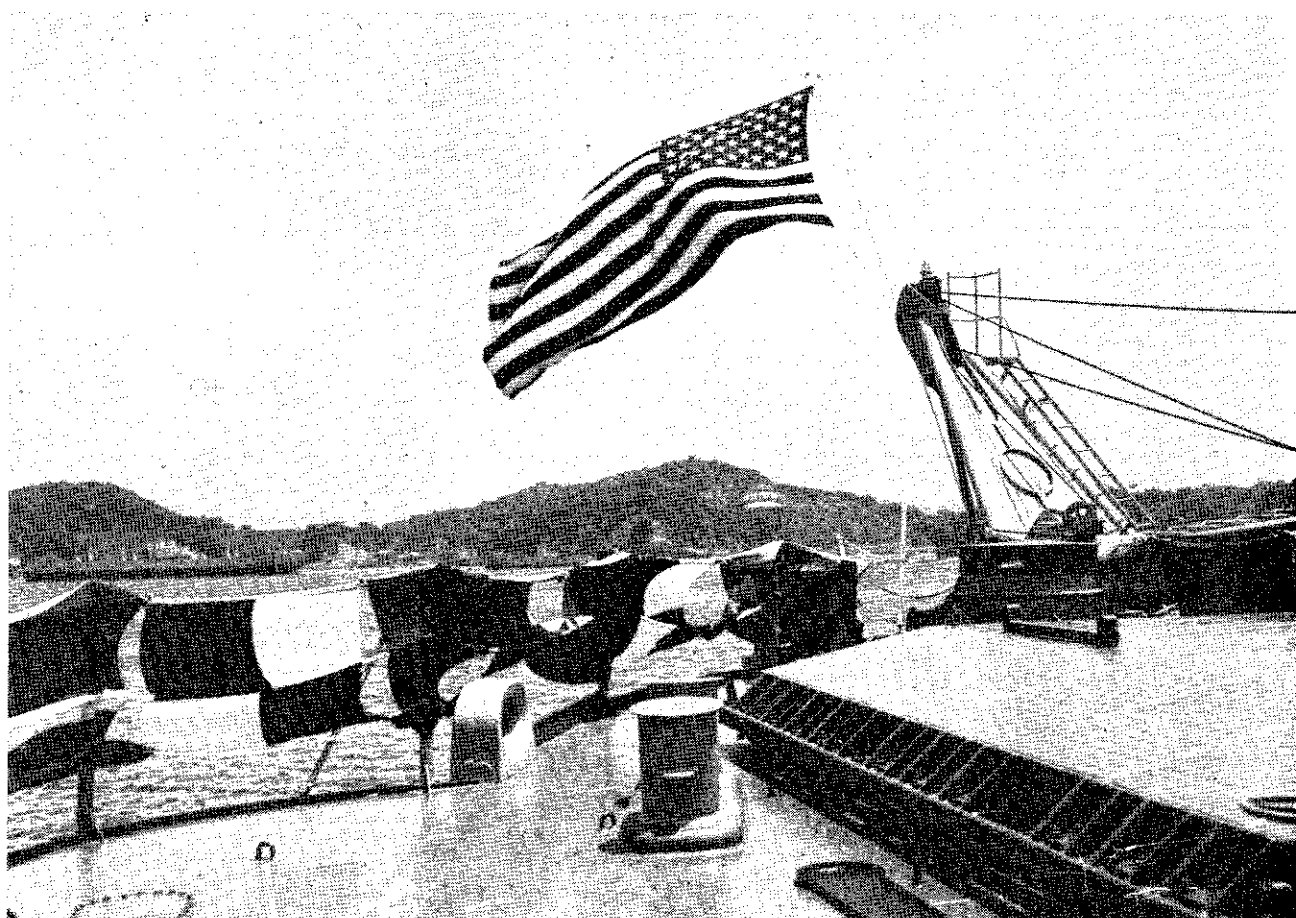
Completing his summary of accident frequency among the fleet, Captain Devlin said that 20 vessels reported 1 injury; 14 ships reported 2 injuries; 6 ships reported 3 injuries; and the superliner *United States* reported 7 injuries.

Commenting on the passenger liners, Captain Devlin stressed that their reportable-injury records were remarkable considering the fact that the SS *United States* is manned throughout the year by an average crew of 1,000 or more officers and men, and the SS *America* carries an average of 660. The cargo vessel crews range from 47 to 57 men.

Engraved bronze plaques will be awarded to the vessels with 2-year accident-free records and a special bronze medallion will be presented to the vessel with the 3-year record. Scrolls will be awarded to the crews of the *America* and the other vessels with 1-year accident-free records.

The United States Lines maintains a continuous shipboard safety drive utilizing such means as close supervision by officers of work activity at sea and at berth; the posting of safety literature on bulletin boards and in other crew assembly areas and brightly painted warnings in all potentially dangerous areas. In addition, safety meetings are held on every voyage, at which "all hands" are urged to call attention to any hazardous conditions.

FLAG ETIQUETTE *



Courtesy U.S. Navy

UNDER PRESENT world conditions every American merchant vessel that touches foreign soil is an official ambassador of American good will. Accordingly, it is important that the protocol associated with the display of flags be understood and followed by merchant mariners. A reader of the PROCEEDINGS submitted to the Coast Guard the following article on flag etiquette. The Coast Guard congratulates him for compiling this information, and it is reprinted below:

OUR FLAG

At this time, it is imperative that we, as American citizens, give more thought to our flag—our national emblem. There is probably nothing which stirs the writer so much as the words from our national anthem, "Gave proof through the night that our flag was still there."

When British pressure began to increase in our Colonies in 1775, the colonists placed upon their own ban-

ners a rattlesnake, cut into 13 pieces, representing the 13 Colonies, and carrying the motto: "Join or die." When they became better united, they placed upon the flag, which had a yellow background, a rattlesnake about to strike, coiled over the motto: "Don't tread on me." This flag was first raised by Capt. John Paul Jones on the ship of war *Alfred* in December 1775.

In June 1777 it was resolved in Congress that the flag of the United States be 13 alternate red and white stripes—7 red and 6 white, with the red stripes on the outside, and with a blue field containing 13 white stars, 1 for each State in the Union. In 1794 the flag was given 15 stars and 15 stripes, following the entrance of Vermont and Kentucky into the Union. In 1818 it was decided to reduce the stripes again to 13 and add only a star each time a new State was admitted to the Union.

RECOMMENDED PROCEDURE

IN THE U.S.A.—IN PORT

Every day:

All flags go up at 0800. First up is the "ensign" on the flagstaff. Hoist the "jack" on the jackstaff on approved vessels of the U.S. Naval Reserve. On some vessels, it is the custom to hoist the "jack" only on sailing day—this is incorrect. Hoist the "house" flag on the mainmast truck with the Naval Reserve pennant above it. On some vessels, it is the custom to hoist the Naval Reserve pennant on the triatic stay only on sailing day—this is incorrect. The "house" flag and Naval Reserve pennant are generally secured to sticks so

*EDITOR'S NOTE: Five years ago this article on flag procedure was printed in the PROCEEDINGS. It is felt that sufficient time has elapsed to once again print this always timely article.

that when aloft, they will fly clear and not be fouled of stays, etc.

At sunset, haul down all flags. Haul the "ensign" down last. Do not let the "ensign" touch the deck and burn old "ensigns."

Sailing day:

0800. The everyday flags go up as usual with the addition of the following: The flag of the country you are at sail for goes up on the foremast truck; it is a common practice to secure this flag also on a stick so that it will fly clear. The "Blue Peter" on the starboard yardarm and the U.S. flag, on the port yardarm. If, by chance or through error, the Naval Reserve pennant is hoisted only on sailing day, it should be flown from the starboard yardarm and the "Blue Peter" on the triatic stay. The pilot flag, if any, will be flown from a convenient halyard, where it will fly clear and free.

When the last line is let go, the flagstaff "ensign" comes down and a new "ensign" goes up on the gaff. If the vessel does not have a gaff, the "ensign" remains on the flagstaff. The "jack" and "Blue Peter" are also hauled down when the last line is cast. All flags except the pilot flag are hauled down at sunset; or if the pilot station is well out, haul down all remaining flags after the pilot is away.

Arrival day:

Just before arriving at the pilot station, the following procedure should be followed: Hoist the "ensign" on the gaff. Hoist the flag of the country you sailed from (excepting your own country) on the foremast truck. Hoist the house flag with the Naval Reserve pennant on the mainmast truck; and the U.S. flag on the port yardarm. Hoist the pilot flag "G" on the triatic stay. If the run from the pilot station to berth is a long one, the flags, with the exception of the pilot flag, are not hoisted until shortly before arriving at the quarantine station. The appropriate quarantine flag is also hoisted on the starboard yardarm. At course when the pilot comes aboard, the pilot flag "H" takes the place of the pilot flag "G."

When pratique is granted, haul the quarantine flag down—the watch officer must be alert to see that this is done before proceeding to berth.

When the first line is ashore, haul the gaff "ensign" down and two-block the flagstaff "ensign." Haul up the "jack" on the jackstaff. When setting the "jack," always be sure at the two pointers of the stars and down and one up.

Anchorage:

At anchorage, arriving at or leaving, the same procedure is carried on

as for arriving at berth or leaving berth. The anchor takes the place of the first line ashore, and when the anchor is aweigh it is the same as when the last line is cast off. Do not neglect to haul down the pilot flag when he leaves the vessel. When shifting ship, it is not necessary to raise the pilot flag "H" if a pilot or docking pilot is aboard. However, as a matter of courtesy, ask him and be governed by his orders.

FOREIGN PORTS

Arrival day:

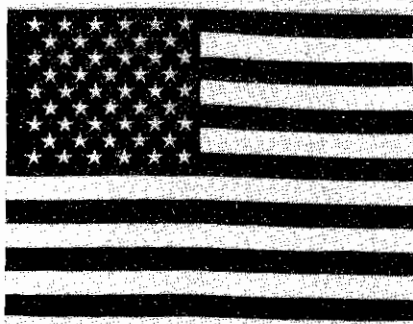
The same as arriving in a U.S. port, with the following exception: The flag of the country you are entering must always be hoisted at the foremast truck—and flown every day from 8 a.m. to sunset while in that port. This is a sign of courtesy and all foreign ships entering U.S. waters are expected to show the U.S. "ensign" in the same manner. In some foreign countries, a fine is incurred for not following this procedure. Local rules should be obtained from the pilot and strictly obeyed.

Sailing from foreign ports:

Same as the procedure for sailing from a U.S. port. On leaving a foreign port, fly the flag of that country from the foremast truck. This is done for the same reason as on arrival day.

DECORATING SHIP

When decorating ship, it is very important that all flags and pennants are ready to go up together at 0800. This is difficult to do on most ships, due to cargo being discharged, hooms in the way, etc. The everyday flags are hoisted as usual, with the following additions: A gantline should be rigged from the bow to the foremast truck, with the hauldown by the foremast. International Code flags should be secured to this gantline and every fourth one should be a pennant. Rig a long gantline from the foremast truck to the mainmast truck with a hauldown at each mast. The distance between the two masts must



Courtesy U.S. Army

be known so that when this gantline is hauled taut from both ends, with the International Code flags attached, they will all fly clear. Raising this gantline properly with code flags attached is a difficult maneuver. Place several men at certain places to clear the gantline. Use several bights of heaving lines along the length of the gantline to clear the wireless aerial. With these bights the gantline can be pulled clear of the aerial and then the heaving lines may be removed. Another gantline should be run from the base of the flagstaff to the mainmast truck with the hauldown by the mainmast and rigged similarly to the others. A number of International Code flags should hang over the stern from the base of the flagstaff with a weight attached and so rigged as to be just clear of the water.

When decorating ship, use only International Code flags with the following additions:

In the U.S.A.

A second "ensign" should be hoisted to the foremast truck. On Government vessels in a U.S. port, all masts should have an "ensign."

Foreign ports

Same as the U.S.A., except that the flag of the country you are in is always hoisted to the foremast truck. **NOTE.**—If you arrive in any port or an Army base or naval base and find that all ships are decorated or that all ships are flying their "ensigns" at half-mast, wait until you are secured to your berth before decorating ship or before you haul your flag to half-mast.

At sunset, all flags should be hauled down at the same time, under all conditions.

"ENSIGN"

When the colors are to be placed at half-mast, they should always be two-blocked first and then hauled down to the half-mast; also, when the colors are hauled down from the half-mast, they must be two-blocked first and then back down. This is very important and shows that the officer on watch is alert.

The "ensign" is always hauled up first and down last. At sunset when the ship is decorated, haul the "ensign" down slowly so that it will not be down before the rest of the flags.

Hoist the "ensign" unfurled—never make it up and break out.

SALUTING

There appears to be considerable misunderstanding on the part of merchant marine officers as to what classes of naval vessels should be saluted.

Although this matter is not set forth explicitly, usage has determined that all men-of-war, including Coast Guard cutters, should be so recognized. Of course, as a matter of courtesy, there is no harm in saluting any naval auxiliary.

It is, of course, necessary and a matter of good taste to salute a vessel flying the flag of any high Government official, member of the armed forces, member of a foreign delegation or representative of a foreign government—who, under the law, is entitled to fly his own flag.

Shortly before a man-of-war (or ship to be saluted) is abeam of you, haul the "ensign" to the dip (meaning halfway down the flagstaff or halfway down on the gaff). When the man-of-war has hauled his colors close up after he has dipped, you do likewise. Be sure the man at the halyards understands your directions thoroughly. The best procedure to follow is to have him haul the colors to the dip when you blow your whistle and then when you blow the second time, haul the "ensign" close up again.

MISCELLANEOUS

When it is necessary to hoist your vessel's international call flags, hoist them on the triatic stay or on any convenient halyard where they will fly free and clear.

READER'S COMMENTS

The article "*Flag Etiquette*" was last published in the May 1956 issue. At that time it attracted much interest and several comments were received.

Some of these comments may be of interest to others. Concerning the custom of flying the flag of the country you are entering at the foremast truck, one reader, a Navy captain, commented as follows:

Under international law a merchant vessel enters a foreign country with the intent to do business or obtain some other favor or privilege for private gain. In return for these privileges she temporarily divests herself of some of her nationality, and accepts a limited dual nationality during her stay in that country. She accepts the right of local authorities to conduct visit and search, including that of making arrests on board; agrees to abide by that country's immigration and custom laws and restrictions; be governed by local harbor laws and pilot rules; and, etc. She indicates her acceptance of these conditions by hoisting the flag of that country at her foremast, and flies it simultaneously with her own national flag. All of which implies a great deal more than mere courtesy.

A man-of-war, on the other hand, never divests herself of her sovereign nationality, and is never subject to visit and

PROCLAMATION 3385

DESIGNATION OF RESTRICTED WATERS UNDER THE GREAT LAKES PILOTAGE ACT OF 1960

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

WHEREAS, pursuant to section 3(a) of the Great Lakes Pilotage Act of 1960 (Public Law 86-555; 74 Stat. 259), the President is directed to designate and by proclamation announce those United States waters of the Great Lakes in which registered vessels of the United States and foreign vessels shall be required to have in their service a United States registered pilot or a Canadian registered pilot for the waters concerned; and

WHEREAS the aforesaid section 3(a) provides that these designations shall be made with due regard to the public interest, the effective utilization of navigable waters, marine safety, and the foreign relations of the United States:

NOW, THEREFORE, I, DWIGHT D. EISENHOWER, President of the United States of America, acting under and by virtue of the authority vested in me by section 3(a) of the Great Lakes Pilotage Act of 1960, do hereby designate and proclaim the following areas in which registered vessels of the United States and foreign vessels shall be required to have in their service a United States registered pilot or a Canadian registered pilot for the waters concerned, on and after the effective date of regulations issued by the Secretary of Commerce pursuant to the Act:

(1) *District 1.* All United States waters of the St. Lawrence River between the international boundary at St. Regis and a line at the head of the river running (at approximately 127° true) between Carruthers Point Light and South Side Light extended to the New York shore.

(2) *District 2.* All United States waters of Lake Erie westward of a line running (at approximately 026° true) from Sandusky Pierhead Light at Cedar Point to Southeast Shoal Light; all waters contained within the arc of a circle of one mile radius eastward of Sandusky Pierhead Light; the Detroit River; Lake St. Clair; the St. Clair River, and northern approaches thereto south of latitude 43°05'30" N.

(3) *District 3.* All United States waters of the St. Marys River, Sault Sainte Marie Locks and approaches thereto between latitude 45°57' N. at the southern approach and a line (at approximately 020° true) from Point Iroquois Light to the westward tangent of Jackson Island at the northern approach.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the United States of America to be affixed.

DONE at the City of Washington this twenty-second day of December in the year of our Lord nineteen hundred and sixty, and of the Independence of the [SEAL] United States of America the one hundred and eighty-fifth.

DWIGHT D. EISENHOWER

By the President:

CHRISTIAN A. HERTER,
Secretary of State.

search, nor does she hoist the colors of the country visited. If visit and search were attempted it is her duty to resist force with force to the utmost. When a foreign national or personal flag is flown by a man-of-war, it is, in fact, a matter of courtesy, and only in honor of a national holiday or in honor of the dignity whose flag is temporarily flown.

The Coast Guard feels that while the foregoing is technically correct, it is more a custom or courtesy than a requirement. With the exception of a few countries which require the courtesy by law, i.e., some South American Republics, the merchant ship accepts dual nationality by the act of engaging in trade in a port, whether or not she shows the foreign flag.

Another reader, a Merchant Marine Master, commented as follows:

Regarding the display of the signals of sailing day, it has been the observer's experience to keep the "Blue Peter" flying after colors in the evening if the ship is sailing after dark the same day; and, early the following morning, to display the "Blue Peter" at daybreak before the usual time for colors. I have also seen with profit the display of the same "P" flying from a ship in the offing awaiting passengers and crew, when the ship was neither anchored nor moored alongside a wharf. In shifting ship the "P" usually left flying until the final departure is effected.

The Coast Guard agrees that in particular conditions that exist on a sailing day would dictate the time that the "Blue Peter" is flown.

RADAR AND COLLISION

AT 8:31 A.M. on May 24, 1955, on the tail end of the flood tide going into Portland, Maine, and less than a mile west of the Portland light vessel, two tankers collided in a dense fog, with visibility zero. The trial judge found both vessels to blame and his opinion and findings are reported at 170 F. Supp. 893.

The larger of the two vessels was the single screw Steam Tanker *Burgan*, 624' 10" long with a beam of 34' 5", of 17,905 gross tons. She was light and outbound for Venezuela in ballast. The Motor Tanker *Bergechief*, also a single screw vessel, had an overall length of 559' 0", 69' 9" abeam and a gross tonnage of 11,720; she was inbound from the Caribbean with a full load of crude oil, 18,500 tons deadweight. The *Bergechief* was equipped with a Raytheon Model 1197 "Pathfinder" radar set with a 7" radarscope together with the necessary operating manuals; and this radar was in good operating condition and functioning properly. The *Burgan* was also equipped with radar and had it in continuous use up to the time of the collision.

MOMENT OF IMPACT

At the moment of impact both vessels were going full speed astern. The *Burgan* still had considerable headway and just managed to scrape by the bow of the *Bergechief* whose forward motion had almost but not quite stopped. The speed of the *Bergechief* was found to be one-half knot and it may well have been less. The vessels met at an angle of 80°.

The principal burden of *Bergechief's* argument, as we understand it, is to convince us that the sole fault found against her was for what she did or did not do in the two or three minute period immediately before the collision. We do not so interpret the findings. In this case, as in most, if not all collision cases, it is necessary to go back and get a clear picture of the vessels as they approached one another. Thus one can see the likelihood of collision as it develops, until the moment when, even though the masters of the two vessels may not realize it, the collision is all but inevitable. In this way faults of navigation may be more accurately determined. Applying this method of analysis, we find there was faulty navigation by the *Bergechief* from the time she turned off her radar, or shortly thereafter.

THE DEVELOPING SITUATION

Long before the *Bergechief* arrived abreast the Portland light vessel, and

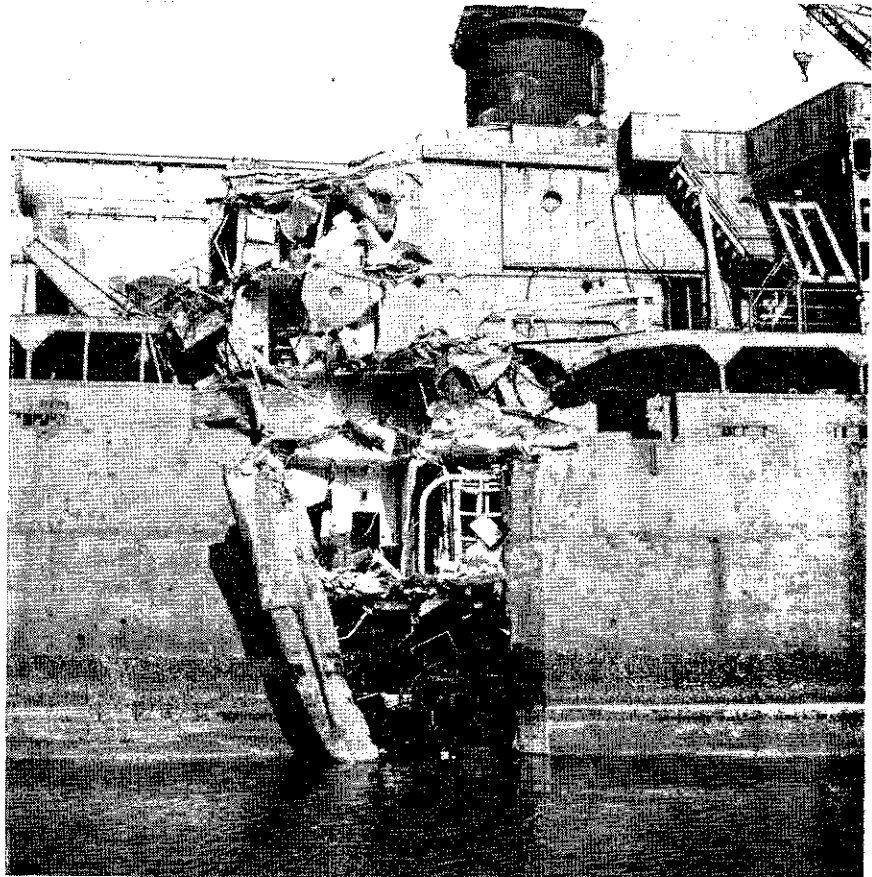
In most collision cases it is necessary to go back and get a clear picture of the situation as the vessels approach one another. In this manner one can see the likelihood of collision as it develops until the moment that it is all but inevitable. A good example of this fact can be seen in the *Bergechief-Burgan* case and its appeal, which is reprinted here as of general interest. ED.

UNITED STATES COURT OF APPEALS, FOR THE SECOND CIRCUIT, Nos. 129 and 130—October Term, 1959. (Argued November 18, 1959. Decided January 26, 1960.) Docket Nos. 25600 and 25601. *Afran Transport Company, Appellee-Cross-Appellant, -v.- m/t Bergechief, her engines, etc., A/S SNEFFON, Appellant-Cross-Appellee. A/S SNEFFON, Appellant-Cross-Appellee, -v.- s/t Burgan, her engines, etc., and Afran Transport Company, Appellee-Cross-Appellant.* Before: Magruder, Medina and Friendly, Circuit Judges.

as early as 8:00 she observed the *Burgan* some miles away in her radar-scope. The *Burgan* did not drop her pilot until 8:19. At 8:22 the *Bergechief* had the light vessel abeam about a half mile away on a 35° true bearing. Assuming, without the slightest justification for doing so, that the *Burgan* was at anchor or was inbound awaiting a pilot, the *Bergechief* stopped her engines and turned off her radar at 8:22. Heavily loaded as she was she glided along running off her way at about five knots on a 307° true course, to await her pilot. The vessels were then a mile to a mile and a quarter apart. No fog signals of the *Burgan* had yet been heard on the *Bergechief*. The lookout on the *Bergechief's* bow was sent aft to take in the log.

DANGER OF COLLISION INCREASED

In the meantime at 8:20 the *Burgan's* engines were put at half speed.



or something in excess of seven knots and she altered her course to starboard at 172° true for Cape Cod Whittling Buoy. From this moment the danger of collision increased with each passing moment. Both vessels were sounding fog signals but the intervals between those of the respective vessels and the precise duration of each blast are not clear.

In any event, the Burgan first heard the Bergechief's fog signal at 8:22; the Bergechief first heard the Burgan's fog signal at 8:23 or 8:24, and it was estimated to come from about a mile away at three to four points off the Bergechief's starboard bow.

As the Bergechief was losing steerageway her engines were given a kick ahead at dead slow for what the master describes as a very brief period of time, perhaps five or ten seconds. This was at 8:26. About the same time the Bergechief heard a short signal blast, followed by a normal fog signal from the Burgan. The trial judge was unable to determine whether the kick ahead came before or after the short blast. At 8:27 the Burgan altered her course hard right to starboard under dead slow. Thus from a course more or less head to head the Burgan started to cross the Bergechief's bow.

EXCHANGE OF FOG SIGNALS

The exchange of fog signals soon made it apparent that a collision was imminent and at 8:29 Bergechief went full speed astern. Burgan went half speed astern at 8:29½ and full speed astern at 8:30. The collision occurred at 8:31. Further details appear in the findings and opinion below.

EXCESSIVE SPEED

We agree with Judge Levet that the faults of the Burgan are "sufficiently patent to require no discussion." Her speed was grossly excessive. Upon hearing the signal of an approaching vessel ahead, whose position, course and speed were not precisely known, she should have stopped her engines and navigated with caution. Art. 16, 33 U.S.C., Section 192, applicable to Inland Waters; *Anglo-Saxon Petroleum Co. v. United States*, 2 Cir., 1955, 224 F. 2d 86; *Johnston-Warren Lines v. United States*, 2 Cir., 1952, 196 F. 2d 689. The conceded erasures and changes in her ship's records are most damaging, especially on the issue of her speed. Her blind alteration of course hard right to starboard, on a mere guess that she might thus avoid collision was clearly a fault, and it was also a fault to give a port to port passing signal, if that is what she did, as Art. 18, Rule IX, 33 U.S.C., Section 203, applicable to Inland Waters, prohibits the sounding of any signal other

than a fog signal when vessels are not in sight of each other. Such a breach of the rules is bound to cause confusion and increase the probability of a collision. Moreover, if her radar was being properly operated by a competent man, it is difficult to understand how she was permitted to barge ahead into such a dangerous situation. In any event, we hold that the mere use of radar does not justify a failure to obey the rules of navigation generally applicable. Radar is an additional safeguard, and a failure to use it may constitute negligence, as we shall see, but a master who relies on radar alone and disregards any or all other precautions and requirements, statutory or otherwise, does so at his own risk. *The Miguel de Larrinaga* [1956] 2 Lloyd's List L.R. 530, 538; *The Chusan* [1955] 2 Lloyd's List L.R. 685, 695; *The Prins Alexander* [1954] 1 Lloyd's List L.R. 281, 290, aff'd [1955] 2 Lloyd's List, L.R. 1; *Gratsos v. The Baranof* [1953] Can. Exch. 74, 81, 1953 A.M.C. 393, 400. See also International Convention for the Safety of Life at Sea, 1948, reprinted in 1953 A.M.C. 1, 83; H.R. Rep. No. 2963, 84th Cong., 2d Sess. 10 (1957). Indeed, it is surprising how many collisions continue to occur despite the fact that both vessels are equipped with and are operating radar. We have already had occasion to comment on the fact that by giving a false sense of security radar, when not properly used may "increase the chances of collision." *Polaris Steamship Co. v. The T/S Sandefjord*, 1956, 236 F. 2d 270.

FAULTS OF THE BERGECHIEF

The faults attributed to the Bergechief by the trial judge are the following:

- (1) In kicking her engines ahead at or about 8:26;
- (2) In failing to navigate with caution after hearing the signal of the Burgan;
- (3) In failing to reverse engines prior to 8:29;
- (4) In failing to keep a lookout;
- (5) In failing to make use of radar from shortly after 8:22 until the time of the collision.

We agreed that the brief kick ahead at 8:26 constituted negligence and it contributed to the collision. It was apparent that the vessels were in close proximity. This kick ahead certainly did not diminish the Bergechief's headway, and we believe it necessarily somewhat increased her speed. In a dense fog such as we have in this case and in open water a vessel is not entitled to maintain steerageway, particularly in the absence of current or substantial force. *Anglo-Saxon Petroleum Co. v. United*

States, 2 Cir., 1955, 224 F. 2d 86; *The Southern Cross*, 2 Cir., 1937, 93 F. 2d 297, 299; *The Youngstown*, 2 Cir., 1930, 40 F. 2d 420, 421.

FAILURE TO ACT

The second specification of fault against the Bergechief seems to be based, at least partly, upon her "failure to recognize or act upon Burgan's short signal at 8:26 or 8:27." We cannot agree with this as no such signal is permitted under the Rules, as we have already noted. Moreover, we are not persuaded that the so-called short blast by the Burgan was intended to indicate a change of course to starboard. It may well have been just another fog signal. But if it was intended to indicate a change of course this was an improper signal and we cannot charge the Bergechief with fault for misinterpreting it.

We agree that the failure to reverse her engines prior to 8:29 was negligence. Both vessels were aware of each other's presence and neither of them had more than a general knowledge of the course of the other. Neither knew, so far as we can make out from this record, the speed at which the other was proceeding. Clearly it was the duty of each to reverse her engines and take off her headway sooner than she did.

ABSENCE OF BOW LOOKOUT

Whether the absence of a bow lookout on the Bergechief contributed to the accident is a closer question. But this is a statutory fault and it is a heavy burden to prove that this deficiency "could not have contributed" to the collision. *The Pennsylvania*, 1873, 86 U.S. 125, 136; *Merritt-Chapman & Scott v. Cornell Steamship Co.*, 2 Cir., 1959, 265 F. 2d 537. We cannot characterize as clearly erroneous the finding that: "a lookout at the bow of the Bergechief would have been better able to determine the nature and direction of the signals coming from the Burgan than were those on the Bergechief's bridge."

FAILURE TO USE RADAR

The most interesting question in the case is that relating to the failure of the Bergechief to use her radar. We agree with Judge Levet that this was a fault and that it contributed to the collision. Moreover, we hold the Bergechief had the burden of proving that her failure to use her radar did not contribute to the collision, and it is clear beyond peradventure of doubt that she did not sustain this burden.

Radar is an electronic method of detecting objects and ascertaining their range and bearing.¹ Essentially

¹ For a more detailed description of marine radar see Wylie, *The Use of Radar at Sea* (3d ed. 1958).

marine radar is a device that generates a narrow beam of radio waves, receives the echoes returned from any target in the area surrounding the ship and displays the returned echoes visually. For our purposes the crucial unit is the radarscope indicator, upon the face of which the distance and bearing of the object from the observing vessel is shown as a "pip" or blob of light which briefly appears at a distance and bearing from the center of the face of the radarscope corresponding to the distance and bearing of the actual object which is reflecting the beam. Thus the exact center of the radarscope represents the ship upon which the radar is installed. The pips appear a number of times, usually seven or eight per minute, corresponding to the number of revolutions of the device or antenna that transmits the radio waves. As the antenna continues its revolution the pip does not immediately disappear. An afterglow or "contrail" remains for a short time, and one pip after another leaves a "trail" which may be useful in close range work and give a rough indication of relative movement or of a change in relative movement.² The problem of interpretation of what appears on the radarscope will be discussed more fully below.

DUTY OF VESSEL TO CARRY RADAR

Though the question is not before us in this case, as both ships were equipped with radar, the question arises *in limine* as to the duty of a vessel to carry radar. No statute or regulation requires this.³ And this is so though radar has to a considerable degree lessened the importance of other navigation aids⁴ required aboard various types of vessels. Nor have the courts as yet formulated any rule requiring radar. A District Court has found that the failure of a destroyer to carry navigational radar in 1942 did not render her unseaworthy. *Anglo-Saxon Petroleum Co. v. United States*, D.C. Mass. 1950, 88 F. Supp. 158.⁵ However, conditions have changed since the fledgling days

of radar in 1942 and the value of *Anglo-Saxon Petroleum Co.* as a precedent today is doubtful. Lurking in the background is *T. J. Hooper*, 2 Cir., 1932, 60 F. 2d 737, cert. denied, 1932, 287 U.S. 662, where in 1932, despite the absence of statutes, regulations or even custom as to radio receiving sets, Judge Learned Hand found a vessel unseaworthy for lack of one. Two barges had been lost in a storm and the tugs and their tows might have sought shelter in time had they received weather reports by radio. We think this case shows which way the wind blows and have little doubt that a rule requiring radar, subject to some limitations and qualifications, will sooner or later be formulated. But we do not decide the point as it is not necessarily involved in this case.

AFFIRMATIVE DUTY

If a vessel carries properly functioning radar equipment and she is in or approaching an area of known poor visibility, there is an affirmative duty to use the radar. *The Medford*, D.C.E.D. N.Y., 1946, 65 F. Supp. 622, 626. See also *The Hindoo*, D.C.S.D. N.Y., 1947, 74 F. Supp. 145, 149-50, aff'd on this point, 2 Cir., 1949, 172 F. 2d 472, cert. denies, 1949, 338 U.S. 823; *Petition of United States*, D.C.E.D. Va., 1955, 131 F. Supp. 712, aff'd *sub nom. British Transportation Commission v. United States*, 4 Cir., 1956, 230 F. 2d 139, aff'd, 1957, 354 U.S. 129.

But the *Bergechief* does not deny there is a duty to use radar under circumstances that indicate it is needed and would supply useful information. Her point, as we understand it, is that the law invests the master with discretion not to use radar when, in his opinion, it cannot supply useful information, relying upon *Pocahontas Steamship Co. v. The Esso Aruba*, D.C. Mass., 1950, 94 F. Supp. 486, 490. We fail to perceive how this case helps the *Bergechief*. The vessel that collided with the *Esso Aruba* stopped using radar because it had been picking up false targets and there was "a lot of interference." Under circumstances such as these it was held that it was not negligence to turn off the radar. As the trial judge in that case said, at p. 490: "There might well be times when the continued use of radar by a navigator who was uncertain of the results he was observing and unwilling to place reliance thereon might well be foolhardy and hazardous." This does not mean that, in the face of the fact that a properly functioning radar will give useful and necessary information, the master has a discretion to decide that it will not

give such information and turn off his radar. A master has no more discretion to disregard this aid to navigation than he has to disregard the use of charts, current tables and soundings where the circumstances require the use thereof. The real question on this phase of the case is, would the radar have provided information of such a character as to have made it clear to the *Bergechief* that she should have reversed her engines and stopped her headway of some five knots sooner than she did.

Both sides called experts and they testified in person at the trial. There was affirmative testimony by the *Burgan* expert, which Judge Levet accepted, that the minimum effective range for a ship target such as the *Burgan* is between 100 and 200 yards. Even without plotting a competent radar operator could get a general indication of the course and speed of another vessel after three minutes' observation. It is clear that continuous observation from 8:22, when the *Bergechief's* radar was turned off, would have revealed that the *Burgan* was approaching on a collision course, as her bearing and the distance separating the vessels would have been shown at all times. Moreover, the trial judge may well have inferred that the master of the *Bergechief* turned off his radar because he mistakenly thought the *Burgan* was at anchor or inbound awaiting for her pilot rather than because he did not "think he could do anything with the radar in so short a time."

TIME FOR PLOTTING

It is likely that there was time for plotting, and this would have revealed the exact speed and course of the *Burgan*. We cannot be sure of this. Although her speed was diminishing, the estimate of five knots could not have been much out of the way; and it would seem to be a good general rule that if a radar pip shows another vessel nearby and forward on your starboard bow, you should stop and make the time for a plot.

Thus we conclude that the finding that it was a fault by the *Bergechief* not to use her radar and that this contributed to the collision will not be disturbed. And we hold further that in circumstances such as we have before us here the vessel that fails to use her radar has the burden of establishing that her failure to use radar did not contribute to the collision. That the *Bergechief* sustained no such burden in this case is too clear for reasonable debate.

Affirmed.

² Id. at 149.
³ The United States Coast Guard Licensing Authority has, however, issued a regulation requiring those applying for licenses as deck officers in the merchant marine, or those deck officers applying for a raise in grade or an increase in the scope of their license, either to pass an examination on the proper operation and utilization of marine radar equipment or to file thereof to present a certificate of an approved radar school. 46 C.F.R. 1.155-46.
⁴ E.g. the radio direction finder and the mechanical deep sea sounding apparatus.
⁵ *Radar and Marine Collisions Today*, 10 *Marine Law Journal* 71, 75 (1958).
⁶ Compare *The Chusan* [1955], 2 Lloyd's L.R. 685, where the Court said that one "expect" to find a modern vessel equipped with radar.



MARITIME SIDELIGHTS

The Luckenbach Steamship Co., the last of the Nation's intercoastal water carriers, announced recently that it was withdrawing from domestic service and entering foreign trade. The Government has been deeply concerned over the steady decline in the trade since the war. Luckenbach is the last of the major lines in the business. The American-Hawaiian Steamship Co. which dropped the intercoastal run years ago recently announced that it was planning an early resumption of its service "in the wake of the suspension announcement by Luckenbach."

✂ ✂ ✂

Construction of the Navy's first operational hydrofoil patrol boat got underway recently at Tacoma, Wash., with the laying of the keel for a 115-foot, 110-ton aluminum craft.

The craft, designed for antisubmarine and patrol work, is being built by the Boeing Aircraft Co. at the J. M. Martinac Shipbuilding Corp. yard. She is scheduled to be completed late next year.

Her top speed is expected to be about 50 knots.

✂ ✂ ✂

The Maritime Administration is seeking proposals for a contract in private industry covering development of a better shipboard oil and water separator. Separators now in use are of limited value in continuous duty and for separating oil from large quantities of flowing sea water used as ballast in ships' tanks, the agency said.

✂ ✂ ✂

The designation of Thomas E. Stakem, Jr., as chairman of the Federal Maritime Board was announced recently.

Mr. Stakem has been with the Board and its predecessor agencies since 1943, when he joined the former Maritime Commission and the War Shipping Administration as Director of Investigation.

For the last year Mr. Stakem has been Vice Chairman of the Board, under Vice Adm. Ralph E. Wilson, retired, whom he succeeds as Chairman.

PATRICK CALHOUN, JR.



THE RECENT christening of the twin-screw towboat *Patrick Calhoun, Jr.* marked an important addition to the American Commercial Barge Line fleet. The vessel was built by Jeffersonville Boat & Marine Co., Jeffersonville, Ind.

Safety factors of the world's first atomic-powered merchant ship and the source of her power were explored at recent hearings by the Atomic Energy Commission.

The *Savannah*, docked at Camden, N.J., is practically completed except for the insertion into her reactor of the core.

This atomic fuel—670 pounds of it derived from 22 million pounds of uranium ore—was processed in two of the three Government-owned gaseous diffusion plants. One plant is at Oak Ridge, Tenn., and is operated by Union Carbide Nuclear Co.; the other is at Portsmouth, Ohio, operated by the Goodyear Tire & Rubber Co.

After the *Savannah* makes her trial runs, she is scheduled to enter limited commercial operations and then normal commerce. When she does, she will be able to run 3½ years, or 350,000 miles, without refueling.

The Todd Shipyards announced recently that the largest tank barge operated by an independent east coast owner has begun service for the Interstate Oil Transport Co. The vessel, designated "Interstate 40," has a capacity of 1,700,000 gallons. It is 285 feet long, 60 feet wide.

✂ ✂ ✂

A new refrigerator service between New York, Hamburg, and Rotterdam via Reykjavik will be inaugurated by Icelandic Steamship Co.'s new motorship *Bruarfjoss*, which arrived recently in New York on her maiden voyage.

The 4,065-deadweight-ton vessel will specialize in the transportation of frozen meat and poultry along with the *Dettifoss* and *Sellfoss*, also operated by Icelandic.



nautical queries

Q. The lubricating oil pump which supplies oil to the main bearings and governors of a turbine-generator set is operated through gearing connected to the reduction gear shaft. How is oil pressure provided for the speed controls and bearings lubrication before the unit is started up?

A. A hand-operated oil pump is mounted on the side of the gear casing. Pump oil by hand in order to lift controlling valves by hydraulic pressure of the oil and furnish the bearings with lubrication until the turbine is placed in operation and the geared pump is functioning to maintain the required pressure.

Q. When operating at high or low speed, what attention and precautions must be taken in the use of the nozzles in a turbine?

A. Only the minimum number necessary to deliver the required speed should be used, and those in use should be wide open. It is more economical to operate with few nozzles and high chest pressure than it is with many nozzles and low chest pressure. Slight adjustments in speed should be taken care of by using the throttle. The nozzles not in use must be tightly closed, as nozzle valves which are cracked only leak steam and reduce efficiency. In order that uniform blade stresses will be assured, use nozzles adjacent to each other, as a continual use of nozzles widely separated will result in loosening and, in extreme cases, may cause dislodging of the blades.

Q. If the westerly deviation increases on westerly headings as a vessel steams south, what adjustment should be made in the Flinders bar?

A. If there is no Flinders bar in the holder, place required amount of bar forward.

If the bar is forward, increase the amount of bar forward.

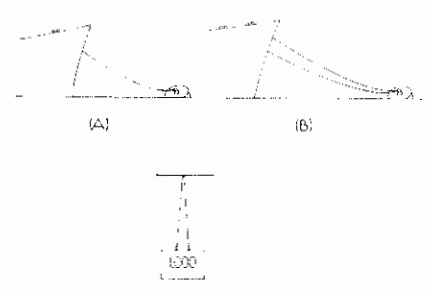
If the bar is aft, decrease the amount of bar aft.

Q. If the red end of the heeling magnet is up, how would you adjust the heeling magnet if compass north is attracted to the high side of the ship?

A. If the red end of the heeling magnet is up and compass north is attracted to the high side of the ship, the proper adjustment is to raise the magnet (or increase the number of magnets).

Q. If a ship is moored to a buoy with a 6-inch circumference nylon hawser (breaking strain 93,000 pounds), what is gained by reeving the line through the ring of the buoy and bringing the eye of the rope back on board?

A. Neglecting loss of efficiency where the bight goes through the pad eye of the buoy, twice the strength of the single line, would be obtained. The vessel could be hove closer to the buoy with one-half the force than it would require with the single line. Doubling nylon line in this manner is recommended to reduce stretch and hazard under many conditions. (See "Handling Nylon Lines," p. 241, *Proceedings of the Merchant Marine Council*, December 1959.)



Q. If both ends of a rope with a 1,000-pound breaking strain are attached to a 1,000-pound weight, can it be lifted by picking up the bight?

A. Yes. A safety factor of 2 is generally regarded as skimpy, however, especially with fast acceleration.

Pulling on either end of the rope would make the rig a single block, merely serving to change the direction of the applied force. In that case, the answer would be "no."

Of incidental interest, the weight could also be lifted with the bight suspended through a padeye or block by "swigging off," i.e., a lateral force, or twisting the two ends with a lever through the middle. Because of the skimpy safety factor, these expedients would have to be carefully used.

NOTE: The above 2 questions were submitted by a reader.

Q. (a) When adjusting the compass on the magnetic equator, what amount of Flinders bar would you use?

(b) What are the advantages

of adjusting the compass on the magnetic equator?

A. (a) None.

(b) At the magnetic equator the vertical component of the earth's magnetic force is zero. There is, therefore, no induction in vertical iron and all of the semicircular deviation is due to the ship's permanent magnetism. If the compass is corrected by the use of the athwartship and fore-and-aft magnets, no other force than the ship's permanent magnetism is neutralized. This correction will be permanent, for both the disturbing force and the correcting force are those of permanent magnets. When the ship leaves the magnetic equator, semicircular deviation may reappear, due to the recurrence of induction in vertical iron. This deviation is corrected by means of the Flinders bar. The result is an adjustment which, for practical purposes, is correct for all latitudes. It will, however, be necessary to readjust fore-and-aft magnets because of their inductive effect on the Flinders bar.

Placement of the Flinders bar by means of having visited the magnetic equator is the most accurate method.

Q. How would you center a compass bowl in the binnacle?

A. To center a compass bowl in its binnacle, with the ship heading north or south or nearly so, put the compass bowl in place and adjust its position by the screws at the ends of the outer gimbal ring knife-edges, until no change of heading by compass is observed as the heeling magnet is raised and lowered, the vessel being on an even keel. Secure the compass bowl in this position by setting it on the screws to prevent any sliding back and forth athwartships. In case there is lost motion in the gimbal rings, they should be repaired or new ones obtained. The compass bowl should not move either fore-and-aft or athwartships in the gimbal rings.

Q. How would you correct your compass for easterly deviation caused by permanent magnetism when the vessel is on a northerly course?

A. If there are no athwartships magnets in the binnacle—place athwartships magnets red to starboard.

If there are athwartships magnets red to starboard, raise magnets.

If there are athwartships magnets red to port—lower magnets.

**OIL POLLUTION PANEL
MERCHANT MARINE COUNCIL
UNITED STATES COAST GUARD
WASHINGTON 25, D. C.**

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11 BROADWAY
NEW YORK 4, N. Y.

To: The Crews of U. S. Merchant Vessels

Gentlemen:

As we reported in the November issue, the United Nations in 1955 sent a questionnaire to various countries as a result of the 1954 International Conference on Pollution of the Seas by Oil. This questionnaire was designed to gain technical information on oily residues and the results of research on the problem of oil pollution. The USCG Oil Pollution Panel participated in the development and analysis of the required information and in January, 1956, the U. S. formally replied to the U. N. questionnaire.

The Intergovernmental Maritime Consultative Organization (IMCO), at the request of the United Nations, has now assumed the responsibilities of the U. N. with respect to oil pollution. In August, 1960, IMCO transmitted to this country a questionnaire designed to bring up to date the information developed as a result of the 1955 questionnaire. At the request of the Coast Guard, the Panel once again agreed to collect the material and information necessary for a reply. This was a major undertaking and the Panel enlisted the aid of the Coast Guard, the American Merchant Marine Institute and the American Petroleum Institute. The assistance furnished by these organizations assured success of the project and the Panel is extremely grateful.

A reply to the questionnaire was transmitted to IMCO and is printed in these Proceedings. We felt you would be interested in reading it because of the wealth of information directly related to your activities which it provides. You will note many references to items we have discussed with you in the past.

We trust that the reply will impress you with the need for your continued effort in oil pollution abatement.

Very truly yours,

R. E. Mackey
R. E. Mackey, Chairman

OIL POLLUTION

SITUATION WITH REGARD TO OIL POLLUTION: STUDIES AND RESEARCH CONCERNING THE PROBLEM

(A) Seriousness of the problem.

1. Does pollution of the sea by oil constitute a problem for your country? If so, please indicate:

(a) Its seriousness and extent.

ANSWER: Pollution of the sea by oil does constitute a problem in this country. To indicate the value of water and beach areas for fish and wildlife and recreation, there are enumerated a few statistics. These statistics have definite limitations but are indicative. There is no comprehensive survey of total use, particularly from the standpoint of small boats.

Someone in one out of every three families hunts or fishes. One in every five families hunts. These are 1955 statistics collected in a survey of hunting and fishing by the U.S. Fish and Wildlife Service. In 1957 approximately 7 million recreation craft were operated, no data is available for those used offshore.

The value of recreational use of beach areas may be illustrated by the 10 national park beaches on the Atlantic seaboard. Cape Hatteras, with 11 miles of shoreline, had an attendance of 467,309 in 1960, and Acadia in Maine, with 12 miles of shoreline had 1,638,246; this in spite of the shorter season. There is much more intense use of beaches nearer centers of population such as Long Island, Rhode Island, and New Jersey. The attendance on New York State beaches in 1954 was 61 million.

The most affected waters off the east and on the beaches are from Cape Hatteras, N.C., northward on the Atlantic coast. During the Second World War, 26 tankers were sunk and in the vicinity of Cape Hatteras. Wintering waterfowl are affected from Back Bay, Va., to the vicinity of Cape Cod, Mass., and around the Farallon Islands off San Francisco, Calif. Commercial fisheries are most seriously affected from Long Island Sound to and including Georges Bank and the coast of Maine. Oil sludge occurs on the Mississippi Delta area and contaminates the nets. Elsewhere, including Hawaii and Alaska, it is not serious.

(b) Its causes (if known).

ANSWER: It is believed that the primary sources of coastal pollution

1. Natural seepages, of which there are at least seven in the Caribbean and two off the coast of California.

2. Petroleum cargo and bunkers in ships lost as the result of enemy action off our coasts. The volume of this oil is estimated at 2 hundred million gallons. As these wrecks disintegrate, this oil is released. All of these wrecks are in deep water.

3. Accidents to ships which result in the rupture of tanks containing oil.

4. Spillage of oil.

5. The discharging of ship's bilges or ballast water from tanks which have contained oil.

Reply of the United States of America to questionnaire on pollution of the sea by oil received from the Intergovernmental Maritime Consultative Organization as annex A to their document POL/VII, dated 26 August 1960.

It is generally believed that the operation of ships or accidents to ships constitute the principal source of oil pollution.

There is no evidence that offshore drilling has, in any way, contributed to pollution of the sea.

(c) Its effects.

ANSWER: Authorities on wildlife and fisheries report that the most common effect is the fouling of birds' feathers, and upon the edibility of fish and shellfish. Where the bottom is sufficiently contaminated, the fishing gear of commercial fishermen may be fouled. Waterfowl die from lack of insulation, starve from the inability to fly, or are suffocated. Fish appear to be able to tolerate considerable amounts of oil pollution, but pelagic fishes, such as herring, shad and demersal fishes, such as whitefish, acquire a taste which makes them unfit for market.

Research has shown that water containing 0.05 p.p.m. of oily waste will taint the flesh of salmon, and 0.2 p.p.m. of diesel fuel imparts an oily taste to shellfish. Aside from fouling fishing gear from sludge accumulation, the bottom may be rendered useless for propagation of shellfish. Since oil-dispersing chemicals may be toxic to certain species of fish and crustaceans, the toxic characteristics of such chemicals should be determined before they are used.

If beach areas are contaminated, tourism is discouraged with a resultant loss of revenue to resort business. The cost of maintenance of recreation areas is increased because the beaches must be cleaned. Fouling of pleasure boats results in increased maintenance.

(d) What steps have been taken (other than the national laws, regulations, etc., referred to sec. V) —

(i) to prevent oil pollution from taking place.

(ii) to mitigate its effects.

ANSWER: Attention is directed to the specific listings in this report and the reply to the 1955 questionnaire.

2. Has the incidence of oil pollution changed since 1955? If so, has it increased or decreased —

(a) Since January 1955.

(b) Since July 1958 (date of coming into force of the 1954 convention).

ANSWER: In general, the national incidence of oil pollution has not substantially changed since January 1955. However, the areas affected have substantially changed. For example: Alabama, Florida, Hawaii, and Oregon report improvement, whereas New Jersey, North Carolina, and Rhode Island report an increase of oil pollution since 1955.

It is not believed that sufficient time has elapsed since July 1958 (date of coming into force of the 1954 convention) to establish and interpret possible changes in the incidence of oil pollution on the coast of the United States.

(B) Studies of oil pollution.

1. Have studies been made in your country by public bodies or private initiative on pollution of the sea by oil, in particular on the matters dealt with in part A of this section?

(a) Please let us have, if possible in duplicate, the results of these studies.

(b) Indicate at the same time their titles, the year they were made, the agency making the studies.

ANSWER: Many studies relating to pollution have been made. Among them are:

1. Since 1929, the American Petroleum Institute Committee for Disposal of Refinery Wastes have worked continuously on the design and operation of separators, and standards of measurement for their efficiency. The standards established by this committee serve as the guide to the petroleum industry in the construction and operation of refinery separators which at refineries receive the oily-water wastes from tankers and barges.

The publications of this committee are as follows:

Volume I. Waste Water Containing Oil (sixth edition).

Volume II. Waste Gases and Particulate Matter (fifth edition).

Volume III. Chemical Wastes (fourth edition).

Volume IV. Sampling and Analysis of Waste Water (second edition).

Volume V. Sampling and Analysis of Waste Gases and Particulate Matter (first edition).

In volume I above, chapter V is entitled: "Disposal of Ballast Water and Tank Cleaning Emulsions From Tankers and Barges." This chapter contains drawings and operating details of typical tanker and barge terminal oily-water installations.

Copies of the five publications of the American Petroleum Institute Committee for Disposal of Refinery Wastes are attached.

2. The American Petroleum Institute's Division of Transportation, in cooperation with the U.S. Coast Guard Oil Pollution Panel, and with the aid of the Government, conducted several extensive surveys of oil pollution conditions in the United States. Reports of these activities are listed below.

a. Oil Pollution Survey of the U.S. Atlantic Coast, with Special Reference to Southeast Florida Coast Conditions, May 15, 1959, 73 pp.

Due to the proximity of shipping lanes, the Florida east coast experienced heavy pollution. Daily observations were made at three beach sites in the Miami area for 1 year. A multitude of information was gathered on conditions and the various influencing factors. Conditions in coastal beach and harbor areas from Boston, Mass., to Key West, Fla., were also investigated.

b. Oil Pollution Survey of the Great Lakes Within U.S. Territorial Limits, January 15, 1960, 22 pp.

To better evaluate the effects of the opening of the St. Lawrence Seaway on oil pollution, a 3-week survey of beach and harbor conditions from the eastern end of Lake Ontario to the western tip of Lake Superior was conducted.

c. Oil Pollution Conditions of the Florida East Coast, March 15, 1960, 7 pp.

To gain information which would permit evaluation of any changes which may have taken place, a 2-week study of the area investigated in the original Florida survey was carried out.

d. The Relationship of Ocean Currents to Oil Pollution Off the Southeastern Coast of New England, January 23, 1961, 30 pp.

The area of Nantucket Island has historically suffered from pollution. In an attempt to determine the reasons, a cooperative program was set up with the U.S. Coast Guard and the Woods Hole Oceanographic Institution, whereby oil slicks sighted offshore would be reported and tracked.

Additionally, an extensive survey of Nantucket beaches was conducted and a thorough study of the ocean currents in the area was made.

Copies of these reports are attached.

3. Miscellaneous.

a. Report on oily substances and their effects on the beneficial uses of water. State Water Pollution Control Board, Publication No. 16, Sacramento, Calif., 1956.

Part I. Determination of the quantity of oily substances on beaches and in inshore waters. Sanitary Engineering Research Laboratory, University of Southern California.

Part II. Characterization of coastal oil pollution by submarine seeps. Robert A. Taft Sanitary Engineering Center, U.S. Public Health Service State Water Pollution Control Board, Publication No. 21, Sacramento, Calif., 1959.

b. Marine Life in the intertidal zone is particularly apt to become contaminated by oil:

Hurst, J. W.—Progress Report on Oil Pollution Studies. Maine Department of Sea and Shore Fisheries, March 1953.

Hurst, J. W.—Oil Pollution of Shellfish. Maine Department of Sea and Shore Fisheries, March 1955.

c. Mortality of oyster and hard clam larvae in oily waters, also effects of oil pollution on chemical and physical activity in water.

Nelson, T. C.—Some Aspects of Pollution as Affecting Oyster Propagation. American Journal of Public Health, vol. 11, pp. 498-501, 1921.

d. Fish appear to be able to tolerate considerable amounts of oil pollution, but their flesh becomes readily tainted.

Hurst, J. W.—A Preliminary Report on the Possibility of the use of Hydrocarbon Digestors as an Index of Oil Pollution. Paper presented to the Northeast Branch of American Bacteriologists, Boston, Mass., 1953.

Some of these contain extensive bibliographies of current literature on the subject of oil pollution.

Copies of these reports are not available for transmittal.

4. See also reply to 1955 questionnaire.

2. Please indicate any studies of the kind referred to in the preceding question which are in progress but not yet completed, and give estimated date of completion.

ANSWER: One such study is being made by the Society of Naval Architects and Marine Engineers' Committee on Disposal of Shipboard Wastes. In an attempt to prevent pollution, the committee is endeavoring to develop a Recommended Practice for Shipbuilding. As this committee has only recently been formed, it is not

possible to estimate the completion time.

(C) Research into chemical, mechanical, and other methods of preventing oil pollution.

ANSWER: For the separation and disposal of oily water shore, see the first part of the answer to question I(B) 1.

For the separation and disposal of oily water on shipboard, see answers to question III.

(D) National Committees and other groups.

1. Does a national committee on oil pollution, as envisaged by resolution 7 of the International Conference on Pollution of the Sea by Oil (London 1954), exist in your country?

ANSWER: Yes. A U.S. National Committee for the Prevention of Pollution of the Seas by Oil was established in 1956. The Committee is an advisory body and its actions are in the form of reports and recommendations. It assists in the development of U.S. positions on oil pollution issues, primarily those with international aspects. It channels information on progress made in foreign countries to interested U.S. Government agencies. It assembles information on progress made in the United States with the view to transmittal to the appropriate organ of the United Nations (IMCO) and encourages antipollution education and research, in implementation of resolutions 7 and 8 of the 1954 conference.

The Committee's current work program, in addition to the items referred to above, relates primarily to a comprehensive study of the various aspects of the oil pollution problem with the view to development of proposals for amendment of the 1954 convention as part of the U.S. preparation for the diplomatic conference to be convened by IMCO in 1962.

2. Are you aware of any further research of this kind which is in progress and, if so, when it is likely to be completed?

ANSWER: Problems relating to oil pollution are under continuous study in the United States. For example, by the permanent committee described in the first part of the reply to question I(B) 1, and by the U.S. Coast Guard Oil Pollution Panel.

II. FACILITIES IN PORT

(A) Facilities available for the reception of oily water or waste oil in each of the principal port areas of your country?

ANSWER: In making the 1960 inventory of the waste oil facilities for the United States, it was found that it was not practicable to attempt to determine what new facilities had been added since the last inventory in 1955 without determining also what

facilities had been retired during this same period. Complications resulting from these considerations suggested that an entirely new inventory be made. This was done, and the results are summarized herein.

Tables Nos. I and II which follow are comparable to tables of the same number included in the 1955 report.

Increase in U.S. waste oil facilities since 1955 has substantially exceeded the increase in national demand for petroleum products in the same period.

1. Port authority or other public agency.

ANSWER: As was the case in 1955, only two facilities at which waste oil may be received are publicly owned. One of these is leased to several shipyards and for this reason it has been included with the shipyard report

No. 1. The other facility is operated by an oil company, so it has been included under oil terminals.

2. Companies engaged in tank cleaning operations.

ANSWER: There are now 28 of these companies as compared with 16 in 1955. They are located as follows: Portland, Maine, 2; Boston, Mass., 1; New York, N.Y., 3; Philadelphia, Pa., 1; Baltimore, Md., 2; Norfolk, Va., 2; Charleston, S.C., 1; Savannah, Ga., 1; New Orleans, La., 3; other gulf ports, 5; California ports, 4; Portland, Oreg., 1; Seattle, Wash., 1; and Hawaii, 1.

3. Shipyards of various categories.

ANSWER: Waste oil of facilities for 41 shipyards are shown in table I. Stationary facilities total 134, with a combined capacity of 48,214 long tons, and mobile facilities total 187, with a

combined capacity of 26,798 long tons. Total waste oil capacity of 41 shipyards for both stationary and mobile facilities for 321 units equaled 71,088 long tons.

4. Oil-loading and oil-discharging terminals (state whether operated by public or by private agency).

(a) Describe facilities now available and state how long they have been in use.

(b) How many facilities are stationary and how many are mobile (barger, trucks, railway tank cars, etc.)?

(c) Total number of berths available at the stationary installations?

(d) Give the average discharge rate, in long tons, per hour, for receiving oily water waste at the stationary installations.

TABLE I—December 1960

U.S.A. SEA PORT AND LAKE PORT SHIPYARDS OF VARIOUS CATEGORIES
STATIONARY AND MOBILE FACILITIES FOR OILY WATERS, IN LONG TONS OF 2,240 POUNDS

Port area	Number of yards	Stationary facilities						Mobile facilities										Total all facilities	
		Tanks		Pond separators		Total		Barges		Tank cars		Tank trucks		Portable tanks		Total			
		Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons
Boston	6	20	415			20	415	7	7,292	12	308					19	7,600	39	8,015
New York	9	19	3,992	4	1,032	23	4,994	5	1,674							5	1,674	28	6,668
Philadelphia	3	3	2,615			3	2,615	8	1,300	9	293					17	1,593	20	4,208
Baltimore-Norfolk	17	12	3,258	6	763	18	4,021	17	7,920	7	247	2	10			26	8,177	44	12,198
Gulf and Lakes	13	13	4,525	2	2,461	15	6,987	9	946							9	946	24	7,933
Los Angeles	6	9	382			9	382	10	1,852	4	28	4	62	3	30	27	1,972	36	2,354
San Francisco	7	17	137	10	1,753	27	1,890	10	785	8	369	21	369			39	1,523	66	3,413
Seattle	8	17	26,930	2	80	19	26,910	18	2,593	2	130	10	50	15	540	45	3,313	64	30,223
Total	69	110	42,125	24	6,089	134	48,214	90	24,362	42	1,375	37	491	18	570	187	26,798	321	75,012
Total 1955	55	98	32,559	20	12,423	118	44,982	81	23,459	56	1,423	33	361	125	863	295	26,106	413	71,088

TABLE II—December 1960

U.S.A. SEA PORT AND LAKE PORT OIL LOADING AND DISCHARGING TERMINALS
STATIONARY INSTALLATIONS DISCHARGING RATE CAPACITY FOR OILY WATER IN LONG TONS OF 2,240 POUNDS

Port area	Number of terminals	Year and age of oily water facilities			Oily water discharge rate, long tons/hour				Oily water storage capacity					
		First	Last	Average age	Number of berths	Highest of any terminal	Average of all terminals	Total of all terminals	Tanks		Pond separators		Total	
									Number	Long tons	Number	Long tons	Number	Long tons
Boston	6	1917	1954	28	7	231	84	508	6	1,459	4	2,861	10	4,320
New York	15	1905	1946	26	47	771	217	3,255	20	39,018	14	52,307	34	91,325
Philadelphia	10	1904	1957	28	31	1,851	518	5,175	14	63,398	13	87,600	27	140,998
Baltimore-Norfolk	7	1919	1956	29	8	5,400	129	902	3	1,080	13	31,776	16	32,856
New Orleans	6	1915	1958	18	14	3,055	951	5,708	7	32,585	3	53,507	10	86,092
San Arthur	9	1905	1939	37	32	2,160	121	9,796	13	49,726	9	120,769	22	170,495
Boston	6	1918	1946	27	18	4,627	1,273	7,636	2	11,571	8	35,384	10	46,955
San Francisco	8	1928	1947	21	15	2,798	1,128	9,025	10	47,983	6	15,538	16	63,521
Gulf and Lakes	17	1922	1958	18	43	925	402	6,835	17	12,540	11	15,854	28	28,394
Los Angeles	9	1916	1932	35	20	771	493	4,435	9	28,543	6	6,122	15	34,665
Luis Obispo	5	1922	1951	22	7	2,314	956	4,783	7	14,965	7	44,569	14	59,534
San Francisco	6	1906	1940	39	16	1,030	566	3,394	8	13,515	11	103,846	19	117,361
San Francisco	4	1914	1958	15	11	2,314	1,080	4,320	6	15,506	2	1,661	8	17,167
Seattle	3	1914	1960	28	3	925	404	1,211	3	3,492			3	3,492
Total	111	1904	1960	26.0	273	4,627	609	66,983	125	325,381	107	571,794	232	897,175
Total 1955	103	1904	1955	25.0	252	4,615	602	62,001	124	306,707	93	387,141	217	693,848

(e) Give the total capacity, in long tons, of all the stationary installations.

(f) What is the total capacity, in long tons, of the mobile facilities?

(g) Is the oil separated from the oily water and, if so, what disposition is made of the recovered oil?

(h) If the oil is not separated from the oily water, what disposition is made of the oily water?

(i) What disposition is made of sludge and oil-contaminated scale from tank-cleaning operations?

(j) State to what extent the facilities are available to all vessels.

(k) What charges, if any, are made for the use of waste oil facilities either publicly or privately owned?

(l) Are any new facilities planned? If so, give some particulars as requested in questions (b) through (k) above, and state when these facilities are expected to be in use.

ANSWER: The reports of 111 oil terminals having 273 ship berths at which oily water may be discharged are summarized in table II.

Typical oil-water separators are as described in the 1955 report.

Table II shows in summary that the waste oil facilities for 111 oil loading and discharging terminals in the United States provide 273 ship berths with particulars as follows: Oldest facilities, 1904; most recent facilities, 1960; average age of facilities, 26.0 years. Highest discharge rate per hour, 4,627 tons; average rate, 609 tons; total rate per hour all terminals, 66,983 tons.

The oily-water storage capacity consisted of 125 tanks, with a capacity of 325,381 tons, and 107 pond separators, with a capacity of 571,794 tons.

The total storage capacity for oily water consisted of 232 tanks and pond separators, with a combined capacity of 897,175 tons.

Operating procedures at these oil terminals are substantially as described in the 1955 report.

Several new oily water installations are projected which will be included in the next report.

III. FACILITIES ON BOARD SHIPS

(A) Oily water separators.

1. What is the history and the present status of the development and use of oily water separators for ships in your country?

ANSWER: The history of the use of oil and water separators in the United States has been poor. An agency of the Government conducted a search throughout the world market for a separator that did not rely on the principle of exploiting the difference in the specific gravities of oil and water. This search proved futile.

Through the efforts of the U.S. Committee for the Prevention of the Pollution of the Seas by Oil and the Maritime Administration, this resulted in the formulation of an "Invitation for Proposal for Development and Construction of an Oil and Water Separator for Shipboard Use." This invitation was issued to U.S. industry March 1, 1961.

2. How many ships of 500 gross tons and over at present registered under your flag are equipped with oil-water separators for treatment of contaminated ballast water?

ANSWER: Most all of the Maritime Commission C2- and C3-type ships built prior to World War II, which are cargo vessels between 350 and 450 feet in length, were equipped with oil and water separators. Due to the war and partly due to the unsatisfactory performance of these separators, the requirement was relaxed. Subsequently there has been no requirement to install separators on Maritime Administration designs.

3. In the case of ships under construction, do your regulations require the installation of oil and water separators before they are placed in service?

ANSWER: No.

4. In the case of ships already in service but not yet equipped with oily water separators, do your regulations provide for a period of time in which they are to be so equipped? If so, what is it?

ANSWER: No.

5. Are old ships exempt from installing oil and water separators? What is the age limit for this exemption?

ANSWER: There is no requirement for separators; therefore, exemption is not a problem.

6. As to the different types of ships mentioned above, under 2, what are the characteristics (model, capacity, etc.) of the oily water separators in service? What is the proportion of each of these types with reference to the others?

ANSWER: Only one type of oil and water separator is now available for marine shipboard use and it operates on the gravity principle. Its capacity ranges from 5 to 100 tons of mixture per hour.

7. Pursuant to resolution 3 of the conference, what measures does your government plan to take to encourage the development of efficient oily water separators and their installations aboard ships?

ANSWER: The United States, through the Maritime Administration and other agencies, is encouraging the development of an oil-and-water separator and is sponsoring a research and development program. Bidders

were invited to submit proposals in March 1961.

8. What specifications does your government plan to establish for these separators?

ANSWER: The specifications proposed by the United States are as transmitted with the invitations to bid on the proposal for an oil-and-water separator. The general requirements and design criteria are as follows:

GENERAL REQUIREMENTS FOR AN OIL-WATER SEPARATOR FOR LARGE OCEANGOING SHIPS

The oily water separator is to be suitable for shipboard installation, continuous duty, and capable of separating a mixture of oil and water delivered by a pump having a maximum capacity of 600 g.p.m. The separator must also be so designed that it will efficiently separate bunker "C" residual fuel oil with a specific gravity range of 0.95 to 1.00 (plus) at 60° F. at a rate of not less than 50 tons (2,240 lbs. ton) per hour.

The oily water delivered to the separator will have a concentration of oil ranging from 0 to 100 percent, while the water may be either fresh or sea water at a nominal temperature of 60° F. However, the temperature of the oily water mixture can also range from 28° F. to 100° F.

The oily water separator and its equipment shall be designed to operate satisfactorily when the ship has a momentary roll of 30° (60° total angle) or a permanent inclination of 5°.

DESIGN CRITERIA FOR AN OILY WATER SEPARATOR FOR LARGE OCEANGOING SHIPS

Under maximum operating conditions, the oily water that must be separated will have a concentration of oil ranging from 0 to 100 percent, while the water in the mixture may be either fresh or salt with a temperature range of approximately 40° F. to 80° F.

The area of research shall be confined so as to lead the ultimate development of a unit so designed that it will efficiently separate bunker C residual fuel oil with a specific gravity range of 0.95 to 1.00 (plus) at 60° F. and have a continuous capacity of not less than 50 tons per hour.

The overall design considerations of the ultimate separator shall be based on the following:

(a) Using bunker C residual fuel having a specific gravity range of 0.95 to 1.00 (plus) as is currently available at bunkering stations.

(b) Space and weight of the complete unit to be kept to a minimum.

(c) The separator is to be fully automatic in its operation.

(d) It is desired that the water discharge contain less than 20 p.p.m. of oil, but under no circumstances shall the oil content be in excess of 50 p.p.m.

(e) Recovered oil shall be suitable for discharge into a fuel tank for eventual burning in the ship's boilers without the need for treatment.

(f) The separator, and its equipment, must be designed to operate satisfactorily when the ship has a momentary roll of 30° or a permanent list of 15°, to either side, and a permanent inclination of 5° fore and aft.

(B) Various processes.

1a. To what extent—give number of ships, if possible—are ships flying your flag fitted so as to prevent the escape of fuel oil or heavy diesel oil into the bilges, the contents of which are discharged into the sea without being passed through an oily water separator (art. VII of the convention and resolution 6(a) of the conference)? Describe briefly how they are so fitted.

ANSWER: As indicated in the reply to the 1955 questionnaire, most all U.S. vessels are fitted with drip pans and gutter bars to prevent the escape of oil to the bilges. In addition, most of the vessels built since 1952 have the settling tanks fitted with high-level alarms to minimize the chance of overflowing during fueling.

1b. What are the immediate steps envisaged by your government for similarly fitting ships, if necessary (resolution 6)?

ANSWER: Practically all vessels are equipped with necessary drip pans, gutter bars, etc. No further action is contemplated at this time.

2. Is any process (chemical, for example), other than separation by gravity oily water separator, in use in your ships for dealing with contaminated ballast water or tank washings in the interest of preventing oil pollution?

If so, what are these processes and what are the reasons which prompted you to adopt them?

ANSWER: No other process is presently known or employed. However, the research and development program referred to and as sponsored by the Maritime Administration requires that appropriate attention be given to related studies and development efforts in other fields of activity which might aid in solving this problem. A particular process has been selected as being the solution.

IV. INSTRUCTIONS CONCERNING METHODS OF AVOIDING POLLUTION BY OIL

1. Are there one or more manuals, instructions, or posters either official or unofficial, in your country, which are meant for the guidance of those serving in ships and of shore personnel who are engaged in the transfer of oil to and from ships, indicating the means of avoiding pollution of the sea by oil, and issued by governmental or nongovernmental organs?

If so, kindly list and describe them giving the dates they were issued and send us two copies of each.

What steps does your government plan to take to implement resolution 5 of the conference, in case your country does not already have satisfactory instructions?

ANSWER: In addition to the material listed in the reply to the 1955 questionnaire, the following lists material which constitutes a substantial contribution to oil pollution abatement activities in the United States during the years 1955 to early 1961.

(a) Bulletins of the U.S. Coast Guard Oil Pollution Panel.

These bulletins by the chairman of the Government-appointed Industry Panel were distributed to the owners, captains, and chief engineers of U.S. flag tankers, to the Panel, U.S. Coast Guard, National Oil Pollution Committee, and shipping associations. Distribution of each issue was about 1,500 copies.

(1) Bulletin No. 1, September 30, 1955 (4 pp.): Initial issue which described the Panel, the oil pollution problem, terms of the 1954 convention and local U.S. conditions, and distributed newspaper clippings relating to pollution.

(2) Bulletin No. 2, February 10, 1956 (8 pp.): Distributed U.S. Coast Guard oil pollution order, and Florida beach conditions.

(3) Bulletin No. 3, March 23, 1956 (2 pp.): Distributed detailed report on Florida beach conditions.

(4) Bulletin No. 4, June 8, 1956 (4 pp.): Distributed San Pedro-Los Angeles area Government pollution order, and in addition, a Florida beach condition report.

(5) Bulletin No. 5, November 2, 1956 (6 pp.): Contained a breakdown of pollution violations.

(6) Bulletin No. 6, January 4, 1957 (2 pp.): Discussed the Government-industry pollution meeting held in Miami, Fla.

(7) Bulletin No. 7, March 11, 1957 (4 pp.): Presented a breakdown on pollution violations and reported on Florida beach conditions.

(8) Bulletin No. 8, March 10, 1958 (2 pp.): Discussed Florida beach conditions, pollution violations, and reported on the initiation of the American Petroleum Institute's study of Florida beach pollution.

(9) Bulletin No. 9, August 20, 1958 (8 pp.): Distributed newspaper clippings, a letter to the panel from the Commandant, U.S. Coast Guard, which discussed pollution, and reported violations.

(10) Bulletin No. 10, April 1, 1959 (5 pp.): Discussed pollution violations, causes of pollution, and a proposed State pollution bill.

In order to gain wider distribution for the Oil Pollution Panel Bulletins and other information relating to pollution, in mid-1959, a plan was instituted whereby this material would be included periodically in the PROCEEDINGS.

The following have been distributed to date:

(1) Issue of October 1959 (9 pp.): Contains a letter from the Panel chairman which acquaints all vessel crews with the new system and reviews past activities.

(2) Issue of December 1959 (2 pp.): Contains a letter from the Panel chairman giving a breakdown on pollution violations and their causes.

(3) Issue of February 1960 (4 pp.): Presents extracts from the American Petroleum Institute's surveys of pollution conditions in the main east coast ports.

(4) Issue of April 1960 (4 pp.): Presents extracts from American Petroleum Institute U.S. East Coast Pollution Survey and a poster.

(5) Issue of June 1960 (5 pp.): Contains an extensive article on the activities of the U.S. National Committee for Prevention of Pollution of the Seas by Oil.

(6) Issue of August 1960 (4 pp.): Distributed a letter from the Panel chairman relative to the status States.

(7) Issue of November 1960 (3 pp.): Distributed a poster and information on the Panel activities in connection with updating the 1955 United Nations' pollution questionnaire.

(8) Issue of February 1961 (2 pp.): Distributed poster depicting beach conditions caused by oil pollution.

V. SYSTEM OF REGULATIONS

1. Has your government promulgated any laws, decrees, or regulations with the object of avoiding pollution of sea water by oil?

ANSWER: No change since 1955.

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 1-61

February 2, 1961

Subj: Subchapter M, Part 144, Loading and Stowage of Grain Cargoes—Equivalents

As a result of study and consideration in connection with the Safety of Life at Sea Conference, 1960, as well as experience in recent years, it is considered that certain specific loading arrangements and conditions, not covered by the present regulations, may be accepted as providing safety equivalent to that resulting from application of the provisions of the current regulations. Since these alternative equivalent provisions may, in some cases, substantially facilitate the efficient economical handling of grain cargoes, they are being disseminated herewith and may be adopted where so desired by vessel owners, prior to formal amendment of the related rules. As far as possible, these equivalents have been numbered to correspond to the related portions of the rules.

LOADING AND STOWAGE OF GRAIN CARGOES—EQUIVALENTS

144.20-10 Holds or compartments partly filled with loose grain in bulk.

144.20-10(a) A longitudinal bulkhead or shifting board required by this paragraph may be located up to 5 percent of the molded breadth of the vessel from the centerline. Alternatively, double longitudinal bulkheads or shifting boards off the centerline of the vessel port and starboard may be used, provided the distance between them does not exceed 60 percent of the molded breadth of the vessel.

144.20-20 Holds or compartments entirely filled with loose grain in bulk.

144.20-20(a) (1) A longitudinal bulkhead or shifting boards required by this paragraph may be located up to 5 percent of the molded breadth of the vessel from the centerline. Alternatively, double longitudinal bulkheads or shifting boards off the centerline of the vessel port and starboard may be used, provided the distance between them does not exceed 60 percent of the molded breadth of the vessel. In this latter case, trimming hatches of suitable size are required to be provided in the wings at longitudinal intervals of not more than 25 feet with end trimming hatches placed not more than 12 feet from transverse bulkheads.

144.20-20(a) (2) In the case of vessels loaded with bulk grain other than linseed, and which maintain a metacentric height (after correction for the free surface effects of liquids in tanks and as otherwise noted) throughout the voyage of at least 12 inches in the case of one or two deck vessels and not less than 14 inches in the case of other vessels, longitudinal bulkheads or shifting boards need not be fitted in the following locations and subject to the following conditions:

(i) In a feeder and below and within 7 feet of a feeder, but only in way of a hatchway, if that feeder contains, or all the feeders collectively feeding a compartment contain not less than 5 percent of the quantity of grain carried in that compartment. Feeders so considered shall have such dimensions that the free grain surface will remain within the feeders throughout the voyage after allowing for a settling of grain amounting to 2 percent of the volume of the compartment fed and a shift of the free grain surface to an angle of 12 degrees to the horizontal.

(ii) In calculating the net minimum metacentric height specified herein, the heeling moment due to such a grain shift shall be allowed for by taking a deduction equal to this moment divided by the product of the displacement and the sine of 5 degrees.

144.20-20(c) For purposes of grain stowage, deep tanks of breadth not exceeding half the vessel's beam need not be divided by a longitudinal division.

144.20-40 Location of stowage for heavy grain in bulk.

144.20-40(a) (3) More than 23 percent by weight of the total cargo below the deck on which bins are situated may be carried in bins and feeders provided the metacentric height maintained throughout the voyage (after correction for the free surface effects of liquids in tanks) is never less than 12 inches in the case of one or two deck vessels and is never less than 14 inches in the case of other vessels, and additionally provided that the master is satisfied that the ship will have adequate stability throughout the voyage.

Stowage of specially suitable ships (no single specific related number in present part 144)

Ships which are generally of self-trimming type, specially designed and constructed for the carriage of bulk cargoes and having two or more vertical or sloping grain-tight longitudinal divisions suitably disposed to limit the effect of any transverse shift of grain may carry bulk grain without regard to the requirements of sections 144.20-10 through 144.20-40, and subpart 144.40 subject however, to compliance with the following requirements:

1. As many holds and compartments as possible shall be full and trimmed full.

2. For any specified arrangement of stowage the metacentric height at any stage of the voyage (after correction for the free surface effects of liquids in tanks) shall be sufficient so that the list resulting from the heeling amount due to the following assumed shift of grain shall not exceed 5 degrees or the angle at which one-half the freeboard is immersed, if less.

3. In all holds and compartments grain surfaces are assumed to settle 2 percent by volume and at a slope of 30 degrees under all surfaces which have an inclination of less than 30 degrees to the horizontal. All resulting grain free surfaces except those sloping opposite to the direction of list (i.e., sloping towards the high side after list) are assumed to shift to an angle of 12 degrees with the original horizontal.

4. However, any grain surfaces which are over-stowed in accordance with section 144.40-20 of this subpart shall be assumed to shift after settling, to an angle of 8 degrees with the original horizontal.

5. Where the metacentric height necessary to compliance with the provisions of this section is considered to be excessive, the design of vessel will be required to be suitably modified or stowage in accordance with sections 144.20-10 through 144.20-40, and subpart 144.40 will be required.

6. Where acceptance under the provisions of this section is desired calculations relative to the anticipated loading and to the foregoing stability requirements should be submitted to the Commandant (MMT) U.S. Coast Guard for approval. These will be subject to confirmation by a stability test as provided in section 93.05-1 of Part 93, Cargo and Miscellaneous Vessels.

7. The master is required to be provided with a grain loading plan covering stowage arrangements adopted in accordance with the foregoing requirements and a stability booklet applicable thereto. Subject to approval of the stability booklet by the Commandant (MMT), both the grain loading plan and the stability booklet shall be acceptable to the National Cargo Bureau.

8. Where considered necessary, supplementary conditions will be required either with respect to the vessel's design and construction, or with respect to particular loading precautions to prevent shifting of grain.

Stability conditions (no single specific related number in present part 144, except that text in part in same as for 144.40-5)

It is a condition of the Commandant's acceptance of loading based upon the stability limits specified in this Circular that the owners shall furnish the Commandant with plans and stability data including the following related information:

1. A capacity plan, including grain capacities and centers.

2. Fuel and water consumption per day and maximum anticipated voyage duration in days.

3. Stability data for all anticipated conditions of grain loading including the least favorable. These data shall include the type, weight, and distribution of grain; the arrangement of compartments, bins, and/or feeders; and the quantity and location of bagged grain, if any. Also included shall be the details of other weights, i.e., ballast, bunkers, fresh water, stores, etc., and the resultant draft and metacentric height, with allowance for slack tanks.

4. Double bottom tanks having a width measured at half length in excess of 60 percent of the vessel's molded

breadth shall in no case be permitted. Such tanks shall therefore be divided by a watertight longitudinal division.

Grain loading plans (no single specific related number in present part 144)

A grain loading plan required in the case of specially suitable ships (and desirable for all ships carrying grain) shall take into account the applicable requirements of the alternative provisions of this Circular and/or of Part 144 generally, as well as the various circumstances of loading on departure and arrival, and the stability of the vessel. It shall indicate the main characteristics of the fittings used to prevent the shifting of cargo.

1. A grain loading plan, in addition to the language in which it is given, should be annotated in at least one other of the following languages: English, French, Spanish, or Russian.

2. A copy of the grain loading plan should be maintained at all times on the vessel. The master then can, if so required, produce it for inspection by the appropriate authority of the port in which loading takes place.

3. A U.S.-approved grain loading plan, or a plan issued under the authority of another government which is a party to the Safety at Sea Convention 1948 and for a vessel belonging either to that country or to another convention country, may be expected to be accepted by other contracting governments as evidence that the vessel, when loaded in accordance with this grain loading plan, meets the requirements of chapter VI of that convention.

4. Vessels not having a grain loading plan approved in accordance with the foregoing procedure, may expect to be required to comply in detail with the rules of the country in which the loading port is situated.

AMENDMENTS TO REGULATIONS

[Editor's Note.—The following regulations have been promulgated or amended since the last issue of the PROCEEDINGS. A complete text of the regulations may be found in the Federal Register indicated at the end of each article. Copies of the Federal Registers containing the material referred to may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.]

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER A—GENERAL

[CGFR 61-2]

PART 1—GENERAL PROVISIONS

Subpart 1.25—Fees and Charges for Copying, Certifying, or Searching Records and for Duplicating Documents and Certificates

MISCELLANEOUS AMENDMENTS

By virtue of the authority described with the regulations below, the following amendments in this document

are prescribed and shall become effective 30 days after the date of publication of this document in the Federal Register:

(Federal Register Document No. 1568; Filed Feb. 21, 1961, and printed Feb. 22, 1961)

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER O—REGULATIONS APPLICABLE TO CERTAIN VESSELS DURING EMERGENCY

[CGFR 61-4]

PART 154—WAIVERS OF NAVIGATION AND VESSEL INSPECTION LAWS AND REGULATIONS¹

"M. V. Chicot" and "M.V. Sirena"

Pursuant to the request of the Deputy Assistant Secretary of Defense (Supply and Logistics), in a letter dated January 11, 1961, made under the provisions of section 1 of the act of December 27, 1950 (64 Stat. 1120; 46 U.S.C., note prec. 1), and a delegation of authority from the Secretary of Defense, the navigation and vessel inspection laws administered by the

¹ This is also codified as 33 CFR Part 19.

Coast Guard are waived to the extent and in the manner described in § 154.73 for the "M.V. Chicot" until and including December 31, 1961, and the waiver in § 154.76 for the "M.V. Sirena" is canceled.

DEPARTMENT OF THE TREASURY

Coast Guard

[CGFR 61-1]

SAN DIEGO, CALIFORNIA, MARINE INSPECTION OFFICE

Establishment

A Marine Inspection Office has been established at Room 12A Broadway Pier, San Diego, California. The mailing address is P.O. Box 1389, San Diego 12, California. This Office is a Coast Guard unit headed by an Officer in Charge, Marine Inspection, who has been delegated authority as described in 33 CFR 1.01-20 to administer and give immediate direction to those Coast Guard activities relating to the navigation and vessel inspection laws within his Marine Inspection Zone.

The San Diego, California, Marine Inspection Zone shall consist of the land masses, inland and territorial waters of the State of California in San Diego County, as well as all arti-

ficial islands subject to inspection on the Pacific Ocean due west thereof. This Zone was formerly a part of the Marine Inspection Zone assigned to the Long Beach, California, Marine Inspection Office.

The ship owners, operators, builders, vessels' operating personnel and other persons affected by the navigation and vessel inspection laws when within the San Diego, California, Marine Inspection Zone are requested to utilize the services available at the Marine Inspection Office, Room 12A Broadway Pier, San Diego, California.

Dated: January 16, 1961.

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

(F.R. Doc. 61-1941; Filed, Mar. 3, 1961;
8:51 a.m.)

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER 5—NUMBERING OF UNDOCUMENTED VESSELS, STATISTICS ON NUMBERING, AND "BOATING ACCIDENT REPORTS" AND ACCIDENT STATISTICS

[CGFR 61-6]

STATISTICAL REPORTS WITH RESPECT TO NUMBERED VESSELS AND BOATING ACCIDENTS

The Federal Boating Act of 1958 (46 U.S.C. 527g) directs the compilation, analysis, and publication of information received with respect to boating accidents. The amendments to 46 CFR 173.05-5 and 173.05-10 change the rules to inform all concerned that the Coast Guard will do this work semiannually, as of June 30th and December 31st of each year, rather than quarterly. It has been found that this quarterly compilation, analysis, and publication of information is an extremely difficult task to perform with the limited qualified personnel available to do this work, in view of the many complexities of obtaining and assembling the required information and to review and prepare material for machine processing. To date it has been impossible to compile accurate and comprehensive statistics on a quarterly schedule. In addition, most States have indicated the quarterly reporting of statistics is very burdensome. From informal discussions concerning the use of these statistics, it appears there is no apparent need for these statistics to be published oftener than once every six months.

The amendment to 46 CFR 171.05-1 is to correct the reference to the State

NOTICE

REGULATIONS of the Congressional Joint Committee on Printing and Binding require annual verification of all mailing lists maintained for the purpose of free distribution of Government publications.

All addressees on the mailing list for the PROCEEDINGS have been sent a card requesting that an affirmative reply be returned to the Commandant (CMC), United States Coast Guard, Washington 25, D.C.

of Hawaii and changes the name from "Territory of Hawaii" to "Hawaii."

Because the amendments in this document are editorial in nature or deal with an administrative practice of the Coast Guard, it is hereby found that the Coast Guard is exempt from compliance with the Administrative Procedure Act (respecting notice of proposed rule making, public rule making procedures thereon, and effective date requirements thereof).

My virtue of the authority transferred to me as Commandant, United States Coast Guard, by Treasury Department Order 167-32, dated September 23, 1958 (23 F.R. 7605), I hereby promulgate the following amendments, in accordance with the statutes cited with the regulations below and these regulations shall become effective on and after June 30, 1961:

PART 171—STANDARDS FOR NUMBERING

Subpart 171.05—Vessel Identification

§ 171.05-1 [Amendment]

In the list of States in § 171.05-1(c) the name "Territory of Hawaii—HA" is changed to "Hawaii—HA" and transferred to follow after the State of Georgia.

(Sec. 7, 72 Stat. 1757; 46 U.S.C. 527d)

PART 173—BOATING ACCIDENTS, REPORTS AND STATISTICAL INFORMATION

Subpart 173.05—Statistics Required

1. The first sentence of § 173.05-5 is amended to read as follows:

§ 173.05-5 Reports with respect to numbered vessels.

The Coast Guard will compile statistics on numbered vessels as of June 30 and December 31 of each year.

2. The first sentence of § 173.05-10 is amended to read as follows:

§ 173.05-10 Reports with respect to boating accidents.

The Coast Guard will compile statistics on boating accidents reported as of June 30 and December 31 of each year.

(Sec. 7, 72 Stat. 1757; 46 U.S.C. 527d)

Dated: March 10, 1961.

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

(F.R. Doc. 61-2278; Filed, Mar. 15, 1961;
8:47 a.m.)

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

[CGFR 61-5]

SUBCHAPTER K—SECURITY OF VESSELS

PART 124—CONTROL OVER MOVEMENT OF VESSELS

Advance Notice of Time of Arrival of Vessels

By Executive Order 10173 the President found that the security of the United States is endangered by reason of subversive activities and prescribed certain regulations relating to the safeguarding against destruction, loss, or injury from sabotage or other subversive acts, accidents, or other causes of similar nature to vessels, harbors, ports, and waterfront facilities in the United States, and all territory and waters, continental or insular, subject to the jurisdiction of the United States exclusive of the Canal Zone.

Pursuant to the authority of 33 CFR 6.04-8 in Executive Order 10173 (15 F.R. 7007; 3 CFR, 1950 Supp.) the Captain of the Port may supervise and control the movement of any vessel and shall take full or partial possession or control of any vessel or any part thereof within the territorial waters of the United States under his jurisdiction whenever it appears to him that such action is necessary in order to secure such vessel from damage or injury or to prevent damage or injury to any waterfront facility or waters of the United States or to secure the observance of rights and obligations of the United States.

The provisions of 33 CFR 124.10 set forth the requirements regarding the advance notice of vessel's estimated time of arrival to be furnished to the Captain of the Port. The purpose for amending this section is to clarify requirements concerning which vessels are required to submit an advance notice of arrival report.

Because of the national emergency declared by the President, it is found that compliance with the Administrative Procedure Act (respecting notice of proposed rule making, public rule

taking procedures thereon, and effective date requirements thereof) is impracticable and contrary to the public interest.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Executive Order 10173 as amended by Executive Order 10277 and 10352, I hereby prescribe the following amendment to § 124.10 which shall become effective upon the date of publication of this document in the Federal Register:

§ 124.10 Advance notice of vessel's time of arrival to Captain of the Port.

(a) The master or agents of every registered vessel of the United States, and every foreign vessel arriving at a United States port or place from a port or place outside the United States, or any such vessel destined from one port or place in the United States to another port or place in the United States, shall give at least 24 hours advance notice of arrival to the Captain of the Port at every port or place where the vessel is to arrive, except as follows:

1) Registered United States pleasure vessels and registered United States fishing vessels are not required to submit advance notice of arrival to the Captain of the Port.

2) When the port of arrival is not located within the geographical area assigned to a particular Captain of the Port, this advance notice of time of arrival shall be made to the Commander of the Coast Guard District in which such port or place is located.

3) When the arrival is a direct result of the operation of "force majeure," and it is not possible to give at least 24 hours' advance notice of time of arrival, then advance notice as far as practicable shall be furnished.

4) When the vessel, while in United States waters, does not navigate any portion of the high sea, i.e., does not navigate beyond the low water mark along the coasts or beyond the waters contained within the boundaries of the United States.

5) When a vessel is engaged upon a scheduled route if a copy of the schedule is filed with the Captain of the Port for each port of call named in the schedule and the times of arrival at each such port are adhered to.

6) When the master of a merchant vessel (except on a coastwise voyage of 24 hours or less) reports in accordance with the U.S. Coast Guard's Voluntary Atlantic Merchant Vessel Report (AMVER) System, he shall be considered to be in constructive compliance with the requirements of paragraph (a) of this section and no additional advance notice of vessel's arrival reports to the Captain of the

Port is required. The master or agent of a vessel on coastwise voyages of 24 hours or less shall report the advance notice of vessel's arrival to the Captain of the Port at next port of call prior to or upon departure from port.

(7) When a vessel which is engaged in operations in and out of the same port, either on voyages to sea and return without having entered any other port, or on coastwise voyages within the same Coast Guard District, or from ports within the First, Ninth, Thirteenth, or Seventeenth Coast Guard Districts to adjacent Canadian ports, and where no reason exists which renders such action prejudicial to the rights and interests of the United States; the Coast Guard District Commander having jurisdiction may prescribe conditions under which Coast Guard Captains of the Ports may consider such a vessel as being in constructive compliance with the requirements of this section without the necessity for reporting each individual arrival.

(8) A westbound vessel which is to proceed to or through United States waters of the St. Lawrence River and/or the Great Lakes under conditions other than provided for in subparagraphs (3), (5), and (7) of this paragraph shall be subject to compliance with paragraph (b) of this section.

(b) The master or agent of every vessel other than vessels of United States or Canadian nationality engaged in the coastal trade of their respective countries or in trade between their two countries without calling at any other country en route, when proceeding westbound to United States waters of the St. Lawrence River and/or the Great Lakes shall:

(1) At least 24 hours in advance of the vessel's arrival at the Snell Lock, Massena, New York, advise the Commander, Ninth Coast Guard District, Cleveland, Ohio, of estimated time of arrival of such vessel at the Snell Lock.

(2) In addition, prior to or immediately on entering Lake Ontario inbound, advise the Commander, Ninth Coast Guard District, of the vessel's first intended United States port of call, if any, and estimated time of arrival at that port.

(3) Upon the vessel's arrival in the first United States port, cause to be delivered to the Captain of the Port (or the Commander, Ninth Coast Guard District where no Captains of the Port are assigned), an itinerary giving the intended ports of call on the Great Lakes and the estimated dates of arrival.

(4) A master of a vessel who reports in accordance with the U.S. Coast Guard's voluntary Atlantic

Merchant Vessel Report (AMVER) System and who includes in this report an estimated time of arrival at the Snell Lock, Massena, New York, shall be considered to be in constructive compliance with the requirements of subparagraph (1) of this paragraph and no additional advance notice of vessel's arrival at the Snell Lock is required. Likewise a master of such vessel who indicates in this report the name of the first intended United States port of call and estimated time of arrival at that port shall be considered in constructive compliance with subparagraph (2) of this paragraph and no additional advance notice of arrival is required.

(Sec. 1, 40 Stat. 220, as amended; 50 U.S.C. 191, E.O. 10173, 15 F.R. 7005, 3 CFR, 1950 Supp., E.O. 10277, 16 F.R. 7537, 3 CFR, 1951 Supp., E.O. 10352, 17 F.R. 4607, 3 CFR, 1952 Supp.)

Dated: March 15, 1961.

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

(F.R. Doc. 61-2408; Filed, Mar. 17, 1961; 8:50 a.m.)

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of ships' stores and supplies certificated from 1 February to 31 March 1961, inclusive, for use on board such vessels in accordance with the provisions of Part 147 of the regulations governing "Explosives or Other Dangerous Articles on Board Vessels" are as follows:

CERTIFIED

Sunshine Chemical Corp., 6124 Phillips Highway, Jacksonville 7, Fla., Certificate No. 471, dated February 2, 1961, SUNSHINE MOTOR CLEANER.

Sunshine Chemical Corp., 6124 Phillips Highway, Jacksonville 7, Fla., Certificate No. 472, dated February 2, 1961, JANSOLV-60 DEGREASER.

Fine Organics, Inc., 205 Main St., Lodi, N.J., Certificate No. 473, dated February 2, 1961, F.O.-259 SOLVENT DEGREASER HEAVY DUTY.

Fine Organics, Inc., 205 Main St., Lodi, N.J., Certificate No. 474, dated February 2, 1961, F.O.-167 HEAVY DUTY DEGREASER FOR MARINE INDUSTRY.

Dunham Chemical Co., 840 North Michigan Ave., Chicago 11, Ill., Certificate No. 475, dated February 2, 1961, DUNHAM C-201.

Dunham Chemical Co., 840 North Michigan Ave., Chicago 11, Ill., Certificate No. 476, dated February 2, 1961, DUNHAM C-206.

Dunham Chemical Co., 840 North Michigan Ave., Chicago 11, Ill., Cer-

tificate No. 477, dated February 2, 1961, DUNHAM C-233.

Dunham Chemical Co., 840 North Michigan Ave., Chicago 11, Ill., Certificate No. 478, dated February 2, 1961, DUNHAM C-289.

Dunham Chemical Co., 840 North Michigan Ave., Chicago 11, Ill., Certificate No. 479, dated February 2, 1961, DUNHAM C-297.

The Hockwald Co., Post Office Box 24,000, San Francisco 24, Calif., Certificate No. 480, dated February 6, 1961, HOCKWALD CARBON SOLVENT #1.

The Hockwald Co., Post Office Box 24,000, San Francisco 24, Calif., Certificate No. 481, dated February 6, 1961, HOCKWALD POWDERED DESCALER.

The Hockwald Co., Post Office Box 24,000, San Francisco 24, Calif., Certificate No. 482, dated February 6, 1961, HOCKWALD #300.

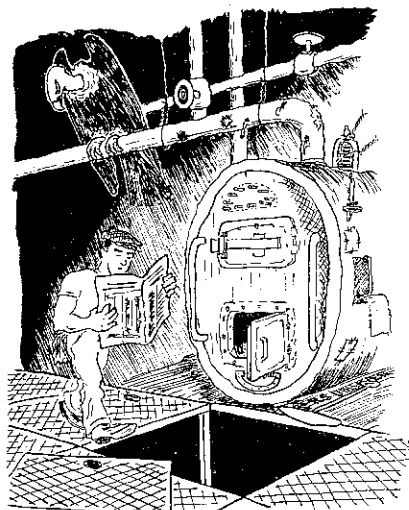
The Hockwald Co., Post Office Box 24,000, San Francisco 24, Calif., Certificate No. 483, dated February 6, 1961, HOCKWALD #480.

The Hockwald Co., Post Office Box 24,000, San Francisco 24, Calif., Certificate No. 484, dated February 6, 1961, HOCKWALD #830.

Sonneborn Chemical & Refining Corp., 300 Park Ave. South, New York 10, N.Y., Certificate No. 485, dated February 13, 1961, PETRO-SENE A.

Sonneborn Chemical & Refining Corp., 300 Park Ave. South, New York 10, N.Y., Certificate No. 486, dated February 13, 1961, PETRO-SENE C.

Sonneborn Chemical & Refining Corp., 300 Park Ave. South, New York 10, N.Y., Certificate No. 487, dated February 13, 1961, PETRO-SENE D.



Courtesy LCDR R. S. Dolliver, USCG.

Montgomery Chemical Co., Post Office Box 187, Jenkintown, Pa., Certificate No. 488, dated February 15, 1961, SWISH AEROSOL ELEKTROKLEEN.

The Enequist Chemical Co., Inc., 100 Varick Ave., Brooklyn 37, N.Y., Certificate No. 489, dated February 17, 1961, DIESEL-AD.

The Enequist Chemical Co., Inc., 100 Varick Ave., Brooklyn 37, N.Y., Certificate No. 490, dated February 17, 1961, ELECTRO #2.

The Enequist Chemical Co., Inc., 100 Varick Ave., Brooklyn 37, N.Y., Certificate No. 491, dated February 17, 1961, ELECTRO #1.

The Enequist Chemical Co., Inc., 100 Varick Ave., Brooklyn 37, N.Y., Certificate No. 492, dated February 17, 1961, BT-T.

The Hockwald Co., Post Office Box 24,000, San Francisco 24, Calif., Certificate No. 493, dated February 27, 1961, HOCKWALD SOLVENT #2.

Developments Unlimited, Inc., 328 Broadway, Passaic, N.J., Certificate No. 494, dated March 3, 1961, DEV-LIMCO TRIPLE-TREAT FUEL OIL TREATMENT.

Uncle Sam Chemical Co., Inc., 573-577 West 131st St., New York 27, N.Y., Certificate No. 128, dated March 27, 1961, WONDER METAL POLISH.

Canceled (Failed to Renew in Accordance With 46 CFR 147.03-9)

Virginia Smelting Co., West Norfolk, Va., Certificate No. 118, dated March 1, 1961, LETHALAIRE R-11.

West Chemical Products, Inc., 42-16 West St., Long Island City 1, N.Y., Certificate No. 145, dated March 1, 1961, WESTAMINE.

Lamco Chemical Co., Inc., 33 Commercial Wharf, Boston 10, Mass., Certificate No. 161, dated March 1, 1961, LAMCO #22 SAFETY WAX.

Farrell Chemical Co., 705 Second Ave., Seattle 4, Wash., Certificate No. 194, dated March 1, 1961, FUEL OIL DESLUDGER NO. 21.

Sumco Products, Inc., Post Office Box 193, Caldwell, N.J., Certificate No. 239, dated March 1, 1961, SUMCO SUDS.

Sumco Products, Inc., Post Office Box 193, Caldwell, N.J., Certificate No. 241, dated March 1, 1961, OILKLEEN.

Sumco Products, Inc., Post Office Box 193, Caldwell, N.J., Certificate No. 242, dated March 1, 1961, HEATERKLEEN.

Sumco Products, Inc., Post Office Box 193, Caldwell, N.J., Certificate No. 243, dated March 1, 1961, TUBEKLEEN.

Sumco Products, Inc., Post Office Box 193, Caldwell, N.J., Certificate No. 254, dated March 1, 1961, MA-

RINE FUELKLEEN, FUEL OIL TREATMENT.

Virginia Smelting Co., West Norfolk, Va., Certificate No. 248, dated March 1, 1961, LETHALAIRE V-20 FORMULA.

West Chemical Products, Inc., 42-16 West St., Long Island City 1, N.Y., Certificate No. 276, dated March 1, 1961, LINA-CREOL.

Sonneborn Chemical & Refining Co., 300 Park Ave. South, New York 10, N.Y., Certificate No. 430, dated March 1, 1961, WHISTL-SOLV.

AFFIDAVITS

The following affidavits were accepted during the period from 15 January 1961 to 15 March 1961:

Flexonics Corp.,¹ Maywood, Ill., FITTINGS.

Ram Forge & Steel, Inc., Post Office Box 19464, Houston 24, Tex., FITTINGS, FLANGES, FORGINGS AND PIPE AND TUBING (FERROUS).

Dunham-Bush, Inc., 179 South St., West Hartford 10, Conn., VALVES.

Cleco Air Tools, Post Office Box 2541, Houston 1, Tex., VALVES.

Fram Corp., Providence 16, R.I., FITTINGS.

Camco Fittings, Inc., 301 State St., North Haven, Conn., FITTINGS.

Hills-McCanna Co.,² 4600 West Touhy Ave., Chicago 30, Ill., VALVES.

American-Standard Controls Div., Rochester Instruments Plant, 100 Rockwood St., Rochester 10, N.Y., FITTINGS.

Westinghouse Electric Corp.,³ 3001 Walnut St., Philadelphia, Pa., VALVES.

Dia-Plug,⁴ Division of Cryogenics Corp., Box 476 D, 500 Terrace St., Meadville, Pa., VALVES.

The Hansen Mfg. Co., 4031 West 150th St., Cleveland 35, Ohio, FITTINGS.

Hydromatics, Inc.,⁵ 5 Lawrence St., Bloomfield, N.J., VALVES.

Pawtucket Mfg. Co., 327 Pine St., Pawtucket, R.I., BOLTING.

Pathway Bellows, Inc., 999 Industrial Place, El Cajon, Calif., FITTINGS.

¹ Limited to metallic flexible hose only.

² This company is presently listed in CG-190 for valves, but the following footnote should be added: "Ball valves fitted with rubber or Teflon seats, limited to Class II piping and a maximum temperature of 200° F."

³ Additional listing for valves as this company is presently listed in CG-190 for fittings.

⁴ Valves limited to maximum temperature of 200° F., pressure of 150 p.s.i. and Class II piping systems.

⁵ Ball valves fitted with rubber or Teflon seats, limited to class II piping and maximum temperature of 200°.

MARINE SAFETY PUBLICATIONS AND PAMPHLETS

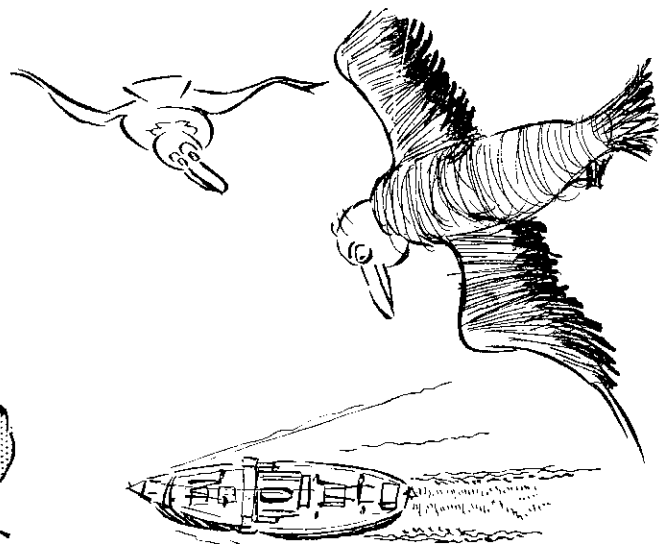
The following publications and pamphlets are available and may be obtained upon request from the nearest Marine Inspection Office of the United States Coast Guard. The date of each publication is indicated in parenthesis following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

CG No.	TITLE OF PUBLICATION
101	Specimen Examinations for Merchant Marine Deck Officers (7-1-58).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (8-1-58).
115	Marine Engineering Regulations and Material Specifications (3-1-58). F.R. 5-10-58, 4-25-59, 9-5-59, 3-17-60, 10-25-60, 11-5-60, 12-8-60.
123	Rules and Regulations for Tank Vessels (12-1-59). F.R. 3-30-60, 10-25-60, 11-5-60, 12-8-60.
129	Proceedings of the Merchant Marine Council (Monthly).
169	Rules of the Road—International—Inland (5-1-59). F.R. 5-21-59, 6-6-59, 5-20-60, 9-21-60.
172	Rules of the Road—Great Lakes (5-1-59). F.R. 6-1-59, 1-7-60, 3-17-60, 5-20-60, 9-21-60.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (7-2-51).
175	Manual for Lifeboatman, Able Seamen, and Qualified Members of Engine Department (9-1-60).
176	Load Line Regulation (9-2-58). F.R. 9-5-59, 8-2-60, 11-17-60.
182	Specimen Examinations for Merchant Marine Engineer Licenses (12-1-59).
184	Rules of the Road—Western Rivers (5-1-59). F.R. 6-1-59, 6-6-59, 5-20-60, 9-21-60, 10-8-60, 12-23-60.
190	Equipment Lists (4-1-60). F.R. 6-21-60, 8-16-60, 8-25-60, 8-31-60, 9-21-60, 9-28-60, 10-25-60, 11-17-60, 12-23-60, 12-24-60.
191	Rules and Regulations for Licensing and Certificating of Merchant Marine Personnel (11-1-60). F.R. 11-30-60, 1-4-61.
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (7-1-58). F.R. 3-30-60, 5-6-60, 12-8-60.
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels (4-1-57).
227	Laws Governing Marine Inspection (7-3-50).
239	Security of Vessels and Waterfront Facilities (7-1-58). F.R. 11-1-58, 12-18-58, 12-30-58, 9-19-59, 2-24-60, 3-30-60, 7-29-60, 3-18-61.
249	Merchant Marine Council Public Hearing Agenda (Annually).
256	Rules and Regulations for Passenger Vessels (3-2-59). F.R. 4-25-59, 6-18-59, 6-20-59, 7-9-59, 7-21-59, 9-5-59, 1-8-60, 5-6-60, 8-18-60, 10-25-60, 11-5-60, 11-17-60, 12-8-60, 12-24-60, 12-29-60.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (3-2-59). F.R. 4-25-59, 6-18-59, 6-20-59, 7-9-59, 7-21-59, 9-5-59, 5-6-60, 5-12-60, 10-25-60, 11-5-60, 11-17-60, 12-8-60, 12-24-60.
258	Rules and Regulations for Uninspected Vessels (9-1-59). F.R. 3-17-60, 11-5-60, 12-8-60, 12-29-60.
259	Electrical Engineering Regulations (12-1-60).
266	Rules and Regulations for Bulk Grain Cargoes (5-1-59).
267	Rules and Regulations for the Numbering of Undocumented Vessels and the Reporting of Boating Accidents (5-1-59). F.R. 7-11-59, 7-18-59, 7-25-59, 9-5-59, 9-17-59, 10-2-59, 10-23-59, 11-19-59, 11-21-59, 12-5-59, 12-29-59, 1-1-60, 1-30-60, 2-13-60, 3-4-60, 3-17-60, 3-18-60, 4-6-60, 4-14-60, 4-20-60, 5-6-60, 5-11-60, 6-25-60, 6-29-60, 7-14-60, 7-29-60, 10-25-60, 12-8-60, 3-16-61.
268	Rules and Regulations for Manning of Vessels (9-1-60).
269	Rules and Regulations for Nautical Schools (3-1-60). F.R. 3-30-60, 8-18-60, 11-5-60.
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935 (11-19-52). F.R. 12-5-53, 12-28-55, 6-20-59, 3-17-60.
290	Pleasure Craft (7-1-59).
293	Miscellaneous Electrical Equipment List (3-7-60).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (10-1-59). F.R. 10-25-60.
323	Rules and Regulations for Small Passenger Vessels (Not More Than 65 feet in Length) (6-1-58). F.R. 9-29-60.
329	Fire Fighting Manual for Tank Vessels (4-1-58).

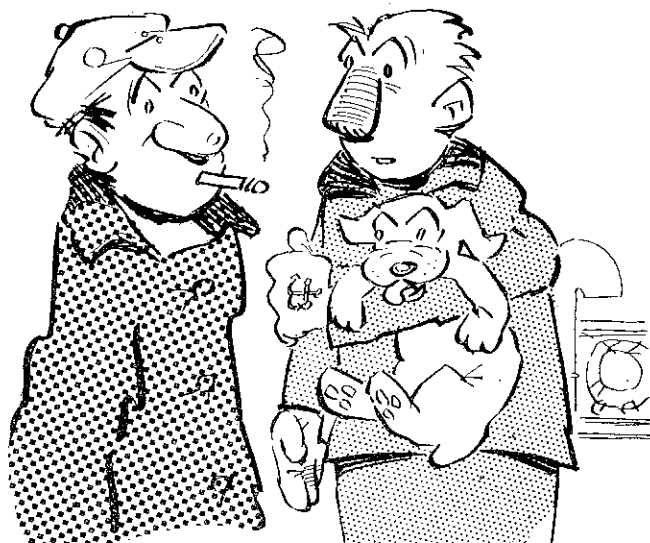
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CHANGES PUBLISHED DURING MARCH 1961

The following have been modified by Federal Register:
 CG-267 Federal Register, March 16, 1961. CG-239 Federal Register, March 18, 1961.



"SHE'S NO FEEDER—WHY THE WHOLE TRIP NOTHIN' WENT OVERBOARD BUT AN A.B. AND HIM WITHOUT A SAFETY BELT!"



"BOSUN—I'VE CHECKED ALL LOOSE DOGS—THIS IS THE ONLY ONE I'VE FOUND. BELONGS TO A PASSENGER."

