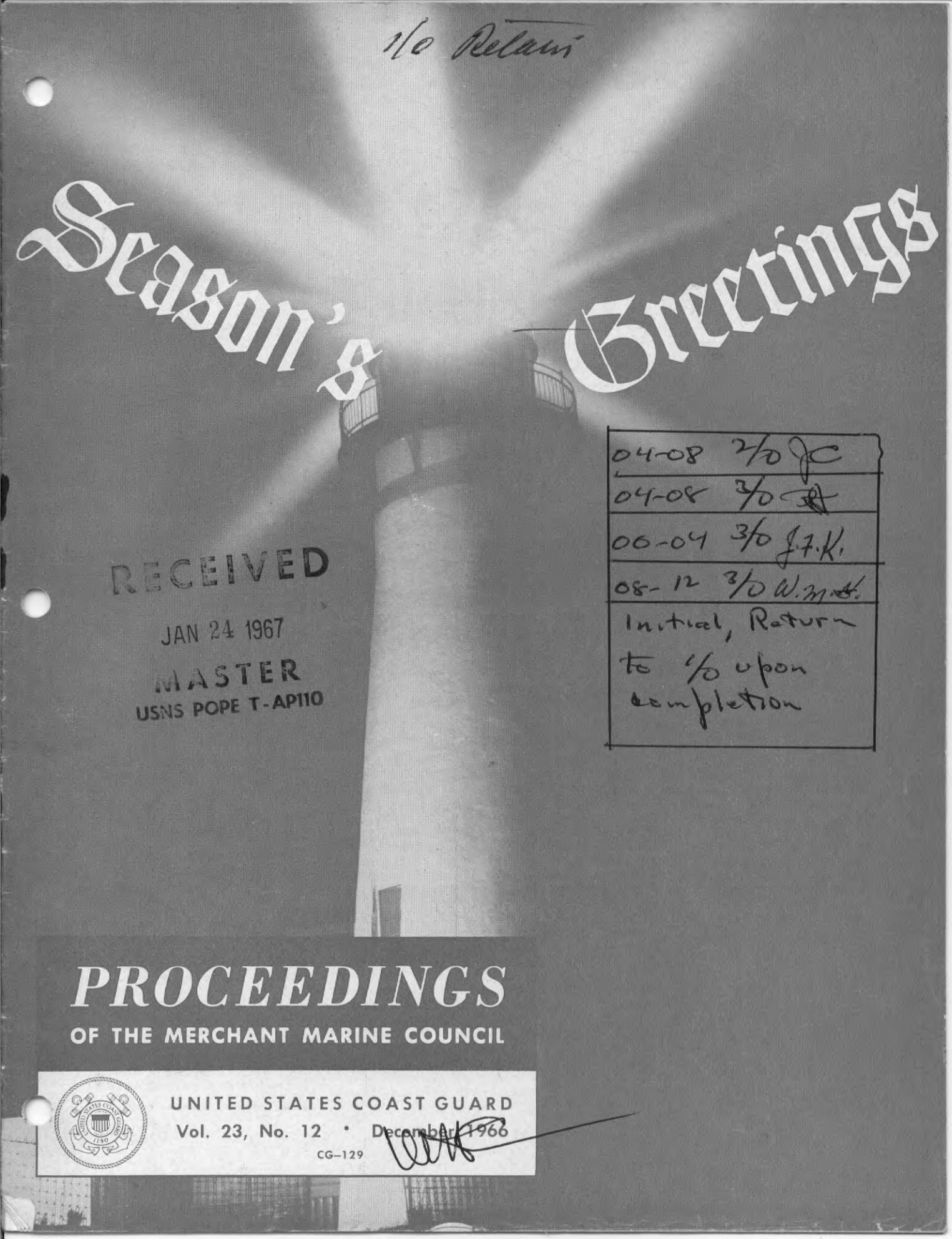

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PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL

UNITED STATES COAST GUARD
Vol. 23, No. 12 • December 1966
CG-129

IN THIS ISSUE . . .

SHIPPING SAFETY . . .
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Season's Greetings

Christmas 1966 finds many men of the sea great distances from home tending to the important water carriage of the goods of both peace and war. To the mariner wherever he may be this Yuletide season, I send my best wishes for a joyous Christmas and a bountiful New Year of health and safety.

W. J. SMITH,
Admiral, U.S. Coast Guard,
Commandant.

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PROCEEDINGS

OF THE

MERCHANT MARINE COUNCIL

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Lt. Comdr. Alvin Jones Arnett, USCG, *Editor*
T. A. DeNardo, *Assistant Editor*

The burned-out Viking Princess.

SHIPPING TRAFFIC SAFETY:

Trends and Proposals

Capt. William C. Foster, USCG

Annually, the Coast Guard, at the National Safety Congress discusses with the marine industry significant marine casualties of the past year. Captain Foster, Chief of the Merchant Vessel Inspection division at Coast Guard Headquarters continues that tradition.

THE COAST GUARD has made and will continue to make case studies and critical analyses of significant marine casualties with a view towards determination of causes and prevention of their recurrence. In addition to this concept of corrective safety engineering, we have also adhered to a policy of anticipatory safety engineering by an analysis of trends and proposals dealing with SHIPPING TRAFFIC SAFETY. In the past, there has been some success in helping to reduce the number of serious casualties. An example of this is the number of major casualties on U.S. inspected passenger vessels since the *Morro Castle* disaster of 1934 and the subsequent establishment of the Merchant Marine Technical Division—those involving death have been few and far between, and the death toll has been low.

U.S. standards for construction of passenger vessels, which entail Method I, or noncombustible material, are gaining worldwide acceptance. This can be attributed to two casualties involving foreign flag vessels carrying a majority of U.S. citizen passengers. First, the Panamanian-flag SS *Yarmouth Castle* burned and capsized in November 1965 with a loss of 90 lives.

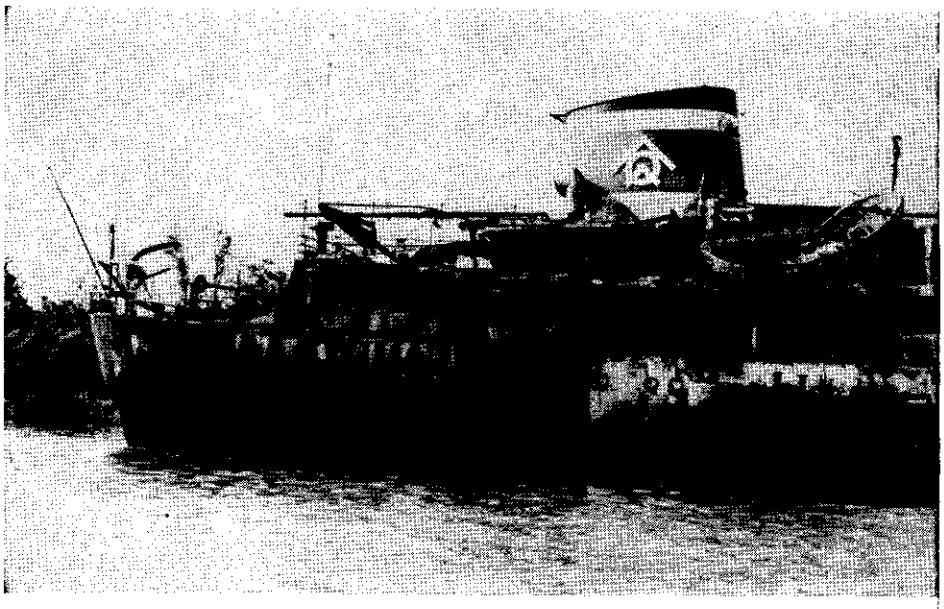
The Coast Guard, in the public interest and at the request of the Republic of Panama for assistance and cooperation, convened a Marine Board of Investigation to inquire into this disaster. It was then learned that the wooden construction of much of the vessel and the open staircases contributed strongly to the rapid spread of the fire, which probably caused most of the deaths through lack of oxygen. The U.S. delegation to a meeting of the Maritime Safety Committee of the Intergovernmental Maritime Consultative Organization during January and February 1966 gave a report of the *Yarmouth Castle* disaster and requested a special meeting of the Committee for the purpose of reviewing fire protection on passenger vessels. At this time many governments agreed but were of the opinion that the Method I construction urged by the United States was unnecessary; they felt that a ship constructed partially of wood and having an alert crew and adequate firefighting equipment would not be subject to great danger from fire. Between February 1966 and the special meeting of the Safety of Navigation Committee on fire protection, which was held during May 1966, the Norwegian-flag M/V *Viking Princess* caught fire and burned in the Caribbean area. The well-disciplined and alert crew managed to save all passengers from the fire, but the general excitement resulted in two passengers dying from heart attacks. However, this same crew was unable to save the vessel. Some of the governments which had expressed unwillingness to rule out wooden construction changed their attitudes toward fire

protection. As a result, many of the original U.S. proposals to upgrade and amend the 1960 International Convention for Safety of Life at Sea standards for fire protection have met with favorable reaction.

Here in the United States recent casualties involving uninspected towing vessels indicate that some control over them, perhaps in the form of licensing of the master and mates, would be beneficial. The foundering of the *Gwendoline Steers* in Long Island Sound with a loss of nine crewmembers and the collision of the *Rebel Junior* with the Lake Pontchartrain Causeway, resulting in the death of six persons on a passing bus, are prime examples.

For the 3-year period prior to fiscal 1966 there was a steady downward trend in the number of lives lost in casualties involving U.S. vessels. Due to several tragic collisions, this trend was reversed during the past year. The most widely publicized disaster occurred last June in Arthur Kill. There the inbound naphtha-laden British M/V *Alva Cape* and assisting tugs collided with *Texaco Massachusetts*, which was outbound and in ballast. The tankers and two tugs received extensive fire damage. As a result 33 died. Two weeks later the *Alva Cape* suffered another fire and explosion and a loss of four lives. The vessel was subsequently towed to sea and sunk by the CGC *Spencer* at the request of the owners. Relatively high loss of life also resulted in two collisions involving American freighters and small Japanese tankers near Japan. The first of these occurred in fog on 2 August 1966 at a time when the SS *Arizona* was proceeding at 17 knots; the M/V *Meiko Maru* was cut in two and only one of the 19 aboard survived. On 11 March 1966 the SS *Pelican State* encountered a Japanese coastal tanker in a crossing situation during clear visibility. As the *Pelican State* was burdened, she came right to pass astern. The tanker then came left and collided with the freighter. The resulting conflagration took the lives of the five crewmen on the tanker and the bow lookout on the *Pelican State*.

Collisions were also the cause of heavy vessel damage during fiscal 1966. Some of the circumstances surrounding them are worthy of review. During a period of thick fog an outbound tanker and an inbound freighter collided in the channel leading to one of our major ports. Both vessels were steaming at greater than moderate speed and were too close to the center of the channel. Neither made full use of her radar. One of them was equipped with a VHF radiotelephone capable of operating on the navigational information frequency. Since the collision was the result of a misunderstanding as to intent, it appeared that it might have been avoided if both vessels had been so equipped and had established direct contact. In another collision in fog off one of our ports two vessels approached in the vicinity of the sea buoy. Each had radar, but did not plot the other's approach. The outbound vessel assumed the other would pass the sea buoy on her own port side, while the inbound vessel planned a starboard-to-starboard situation. The value of radar was clouded by slight course changes, which gave the navigators a false impression. The failure to navigate with caution, and the failure to use radar information properly, contributed heavily to the cause of this collision; however, it might have been avoided by the establishment of sealanes in the area. Here again, direct radio contact between the bridges of the vessels might also have been helpful.



The blackened Boheme *shows results of collision and fire.*

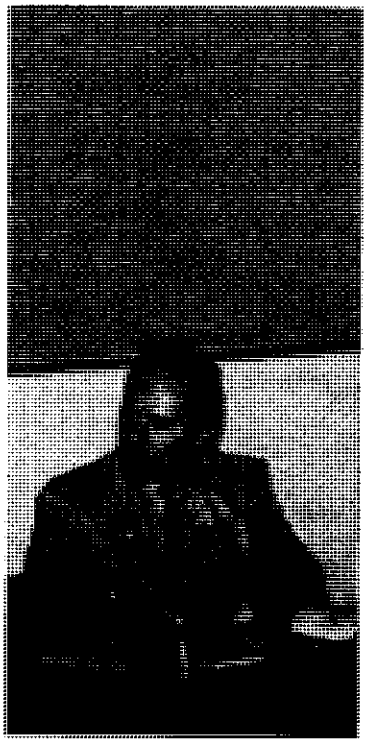
As has been indicated in the past, many of us are prone to look to the individual master, to the pilot, or to the person in charge of the navigation of the vessel and claim that it is his personal error, his error in judgment, his inattention to duty, his negligence, or in some extreme cases, his criminal negligence that caused the collision. It is true that in many instances the primary cause is human error, but, how many other underlying facts are really involved? Rapid turnaround requirements, high speed express cargo service, longshoremen and shipyard commitments, and competitive considerations have all had something to do with placing the vessel in the jaws of collision. In the *Fernview-Dynafuel* collision could it not be said that the vessel's speed in excess of 17 knots, in heavy fog and restricted waters, was the result of an underlying *arrival* commitment at Boston? In the *Boheme-Bonnie D* collision in the Mississippi River could it not be said that the pilot's failure to recognize a dangerous situation was partly the result of his zeal in trying to get the vessel to sea as *quickly* as possible? We need not say any more because we believe the points are well

taken by those who are directly and properly concerned with the problem. This is management's ultimate operational responsibility, and the Coast Guard will not intervene. However, we are planning programs to advance SHIPPING TRAFFIC SAFETY. These include unification of the three sets of U.S. Rules of the Road for interior waters, enforced availability of navigational-safety radiotelephone, the development of sealanes, and vessel traffic control through shore-based harbor advisory radar.

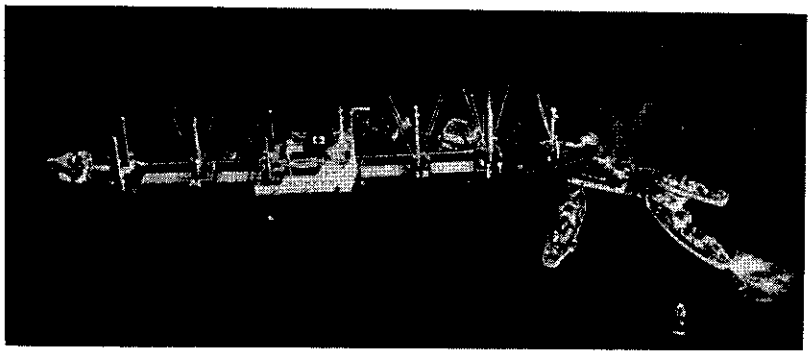
Shipping traffic generally follows certain navigation rules designed to prevent collisions, which have over the past century been referred to as the "Rules of the Road." These rules, if conscientiously followed, work admirably when the traffic density is not too high. However, in restricted waters or at any point of high traffic density, they tend to have inherent deficiencies—they cannot handle a high rate of crossing traffic at optimum speeds, they automatically create what is known as a "special circumstance" when more than two vessels are approaching one point at the same time from widely converging directions, their required whistle signals are often not heard, and their efficiency is reduced during periods of poor visibility. The present International Rules of the Road were revised recently and became effective on 1 September 1965. Since early 1963, the Coast Guard has had under study the revision and unification of the three sets of rules that apply to our own waters. A proposal to effect this has been under close scrutiny by various maritime interests in our country for over 2 years. It is presently felt that there has been sufficient review and that the shipping community has had ample opportunity to comment on these rules. The proposal is awaiting the concurrence of Canada with respect to its portions affecting the Great Lakes. When this is completed, it will be placed in legislative form for submission to Congress.

Two years ago a joint committee established by the Coast Guard and the Federal Communications Commission embarked on a study to determine the need for legislation requiring any vessel in United States waters to carry a VHF–FM radiotelephone immediately available for use by the master or pilot for the exchange of navigational information. After study, this committee became convinced that such a need does exist and thereafter developed a preliminary proposal for legislation and regulations. This was released to the public on 22 July 1965 and has since received wide dissemination and discussion among interested parties. Certain groups have expressed strong opposition to the concept. The committee has recently rewritten the proposal so that it includes all waters of the United States except the Great Lakes and their tributaries, and the Mississippi River north of the Baton Rouge Bridge, along with its tributaries. The exclusion of the Great Lakes was recommended by the committee because that area already has a compulsory navigational information radio system under the "Great Lakes Agreement" of November 1954 between our country and Canada. The Mississippi River was excluded because vessels in that area voluntarily utilize radiotelephones for navigational information. The committee's proposal is being drafted in legislative form for submission to Congress. Its compulsory coverage has been limited to all power-driven vessels of 300 gross tons or over, all passenger vessels of 100 gross tons or over, and all dredges or other floating plants engaged in operations which actually restrict or affect vessel traffic. It would require these vessels to listen on a common navigational information frequency and would assure that they were provided with a useful tool to help them pass one another safely. This additional aid is especially needed in the situations in which the Rules of the Road have bullt-in deficiencies—high traffic density, special circumstances, whistle inadequacies, and poor visibility.

During its annual congress in Chicago, the Marine Section of the National Safety Council was treated to three most interesting papers at a program chaired by Captain R. Y. Edwards, Deputy Chief of the Coast Guard's Office of Merchant Marine Safety. Two of those papers from the Coast Guard session appear in this issue. The other will run at a later date.



Captain Foster, who is presently assigned as the Chief, Merchant Vessel Inspection Division in the Office of Merchant Marine Safety at U.S. Coast Guard Headquarters, is a 1940 Graduate of the U.S. Coast Guard Academy. He saw World War II service on the cutters Champlain *and* Spencer, *and the attack transport* Joseph Dickman (*ex* President Roosevelt). *After serving as executive officer of the cutter* Androscoggin *and the icebreaker* Northwind, *he was assigned as Acting Commanding Officer of the icebreaker* Northwind *and later as Commanding Officer of the light icebreaker,* Storis. *He is a veteran of five Arctic voyages in connection with Dewline Operations in the Eastern, Central, and Western Arctic areas of North America. Captain Foster's experience in merchant marine safety is extensive, having served progressively in positions in that field at Baltimore, Seattle, and Cleveland, at the latter as Officer in Charge, Marine Inspection. He assumed his present headquarters position in 1963.*



The Fernview–Dynafuel Collision

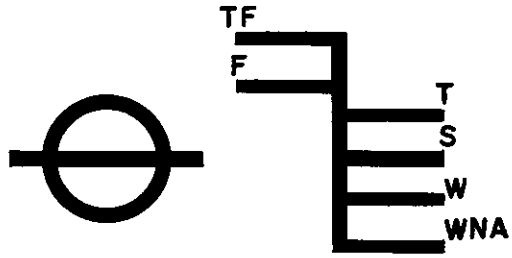
The Coast Guard has recently entered another field that is intended to help vessel traffic pass safely—sealanes or separate traffic lanes. During the late spring of 1965 a committee was formed in New York City to study the problem of the separation of vessel traffic approaching New York Harbor. The Commander, Third Coast Guard District, invited the shipping industry, pilots, various other groups concerned with the maritime community, and interested governmental agencies, to send representatives to this committee. The group held several meetings and arrived at an agreement recommending parallel sealanes for each of the major routes to New York Harbor, which lanes would ultimately converge into a circle with a 7-mile radius centered on the new Ambrose Light Station. Certain aids to navigation would have to be relocated to tie in with existing routes, such as the termination points of the internationally recognized North Atlantic Track Lines. A similar study has been carried out for the approaches to the Delaware River. If the recommendations of the New York Harbor and Delaware River groups gain wide acceptance, studies will be made in all other approaches to major seaports. The recommendations of any of these sealane committees would be printed on all appropriate charts. A similar concept of vessel traffic operation was instituted on the Great Lakes by commercial interest in 1911, and, while not directly enforcible by any government, this concept has been judicially recognized by various admiralty courts. It is possible that the separate lanes recommended for New York, or those that might arise in other areas, will attain similar status.

Vessel traffic "fairways" are now being printed on charts of the gulf coast. Considerable study and discussion between shipping and oil interests took place prior to the decision that these "fairways" would be published. The fairways are merely structure-free 2-mile wide lanes in which vessels will not encounter oil rigs. It would have been desirable from a safety standpoint to have established separate lanes for vessel traffic in each direction, but at least this is a start. A parallel to this situation has existed in the North Sea since 1945, wherein vessels are routed over mine-free lanes marked by fairway buoys.

Strict ship traffic control and regulation is almost nonexistent today in U.S. waters. The Corps of Engineers controls a certain amount of vessel movement for safety purposes within some of the waterways and facilities it operates. The Coast Guard exercises control over movement of vessels in the St. Marys River between Lakes Superior and Huron. Control of shipping traffic has necessarily lagged behind control of air, rail, and roadborne traffic. These media of transportation move considerably faster than vessels, and this has necessitated a positive control for their safety. Nevertheless, it has been suggested that some positive vessel traffic control is needed in certain converging traffic areas. Already in existence is a limited number of "traffic lights" for vessels which operate as the traffic lights do at any street intersection. Such lights are presently found at either end of the Cape Cod Canal operated by the Corps of Engineers, and at Algiers Points in the Mississippi River operated during certain stages of the river by local authorities. Further expansion of this type of control system is not currently envisioned. Navigational information radiotelephones could convey the same information if used properly at blind bends in narrow rivers.

In lieu of "traffic lights" for vessel movement, shore-based harbor advisory radar has been under consideration in a preliminary sense only. For several years, the two pilots associations in the Los Angeles-Long Beach area have been using radar advice from their respective pilot stations. It is noted that to the best of the Coast Guard's information, the use of shore-based radar for this purpose in the Los Angeles-Long Beach area was the first such occasion in the United States. The highly sophisticated systems presently in use in the approaches to Rotterdam, Netherlands, and Southampton in Great Britain go far beyond the Los Angeles procedure. It is also noted that overseas each harbor radar advisory system was developed primarily at the expense of a seaport, and in many cases, as a competitive measure to furnish better service than neighboring seaports. This has not occurred to date in the United States. The Coast Guard has been interested in harbor surveillance radar systems as a possible method to increase the safe movement of shipping in highly congested areas and particularly during times of poor visibility. Preliminary studies which were made of several U.S. seaports last year are still under review by the Coast Guard. It is considered possible that the concentration of shipping and the greater speed of vessels in the near future at the approaches to large seaports such as New York would necessitate the establishment of harbor radar advisory systems. Any such advance for the greater safety of shipping must necessarily be obtained through review by and the firm backing of the marine industry and the local authorities in a particular area. The Coast Guard considers that shore-based harbor advisory radar may be necessary in the near future and we will continue our studies in order to be prepared to cooperate with, assist, and lend direction to marine interests desiring to establish such assistance.

From the foregoing, it is apparent that collisions are now the big casualty news, and collision prevention is of utmost importance. However, studies of casualties, new developments, and trends affecting *all* aspects of marine safety are continuing within the Coast Guard, so that sound safety standards will be maintained in the United States Merchant Marine. ⚓



LOAD LINES:

Safety for the Seaman

Cdr. Lloyd Whit Goddu, Jr., USCG

The load line has a colorful and interesting history. Commander Goddu traced it for the National Safety Congress and in an updated version does so here for the readers of the Proceedings.

AN INTERNATIONAL CONFERENCE on Load Lines, convened by the Intergovernmental Maritime Consultative Organization (IMCO) and attended by 60 countries, ended on 5 April 1966 with the signing of an agreement—the International Convention on Load Lines, 1966. To quote from the preamble to the convention, the conference was motivated by a recognition that the "establishment by international agreement of minimum freeboards for ships engaged on international voyages constitutes a most important contribution to the safety of life and property at sea."

A load line mark is placed on the side of a ship to permit loading of a vessel to that mark and yet remain within a limit of safety for the voyage intended. Samuel Plimsoll is generally regarded as the father of the load line mark having been the author of the United Kingdom's Merchant Shipping Act of 1876. This act culminated a long and hard drive to offset the unseaworthy conditions permitted on vessels of the era. Owners in their drive to increase revenues were overloading their vessels to a point of being in an unsafe condition. Sailors were generally not aware of this unsafe condition, and in any event had no recourse to change this situation nor were their survivors able to receive benefits or pensions. On the other hand sailors could be jailed for breaking contract and refusing to sail these vessels.

Even though Plimsoll gained world fame and recognition for his work in the establishment of the load line mark, it was not entirely his own idea. Plimsoll, after several early reverses, won his fortune as a coal merchant and was subsequently elected to a seat in the British House of Commons. It was as a Member of the House, with information gathered by a Mr. James Hall, that Plimsoll in 1870 was inspired to begin his drive for better safety for British seamen. Hall, who with his brother operated a successfull steamship company, had begun writing on the unsafe practice of overloading vessels several years before, in 1867. However, he was completely overshadowed by Plimsoll with the latter's convenient public exposure in the House of Commons.

In the late 1800's, Hall said in a letter to a friend, "I have in my lifetime, at a cost of much labor, taken the initiative in certain movements, such as that of the load line, of which Plimsoll, with the information I gave him, subsequently reaped the credit."

The term "Hall Mark" could well have been known across the shipping lanes of the world as a mark of safety for seamen instead of an indication of a quality greeting card as it is popularly known today.

History records the fact that load line marks were used as far back as the Middle Ages. The records of the Italian Republics show that agitation against overloading was not unknown at that time, and to secure safety for the crew and cargo it was found necessary to place some restrictions on the more careless owners. The Venetians were so impressed by the advantages of a load line that the Doge passed a law for such a mark to be placed on vessels to avoid the danger of overloading. They marked their hulls with the sign of the cross which to them symbolized the salvation of their bodies from the sea as well as their souls from perdition. The Sardinians were next known to have placed a mark on their vessels. It is not known whether they simply followed the lead of the Venetians or not. Venetian ships must often have put into the ports of Sardinia and the seamen of the island could not have failed to notice the sign of the cross. They may have noticed that while a Venetian ship had outridden a gale and come safely to port, one or two of their vessels had failed to return. However, there is a strong presumption that the Sardinians came upon the idea on their own as they adopted a different load line symbol. It was a painted disc with a line through its center. One thing at least is certain, the disc which the Sardinians painted on the hulls of their vessels with the

Commander Goddu attended Tufts Engineering College before entering the U.S. Coast Guard Academy in June 1942. Graduated in 1946, he subsequently saw duty aboard the cutters Campbell, Yakutat, Bibb, *and* Duane. *He has served as Officer in Charge, Marine Inspection, Wilmington, N.C., and is presently serving as Assistant Chief, International Maritime Safety Coordinating Staff. Commander Goddu is pictured here attentively following the transactions of an IMCO session in London.*

line through it was undoubtedly the forerunner of the Plimsoll mark. Created centuries ago, it was for centuries forgotten.

The more modern history of this question dates from 1876, when the British Merchant Shipping Act prescribed that all foreign-going vessels must have the load line mark on each side of the hull. The position of this mark was not specified but was left entirely to the discretion of the owner who could alter it at the beginning of any voyage. This condition, of course, was unsatisfactory from a safety standpoint. The problem was one of considerable complexity, and after long consideration the Load Lines Committee of the Board of Trade submitted tables of freeboards, giving the maximum loading which could be permitted with safety in cargo-carrying vessels. It was not until 1890 that the British Load Line Act was passed making it compulsory for the position of the load line disc to be fixed in accordance with the Board of Trade Tables.

These freeboard tables were revised in 1905, permitting vessels to load deeper than formerly. Meanwhile various other shipping countries adopted standards of freeboard which were accepted by the Board of Trade if substantially equivalent to the British standards. In all other cases, foreign vessels trading with the United Kingdom were required to have a British freeboard to depart their ports.

Shortly after the turn of the century interest began to be focused on this problem in the United States. Yet it was not until 1919 that the first bill to establish load lines was introduced. The bill unanimously passed the House of Representatives in October of that year but was never reported out of committee in the Senate. It was a bill needed, first, in the interest of safety, and, second, in the interest of the commercial standing of our great fleet of oceangoing cargo steamers.

This country was the only maritime nation of importance that had not passed such a law but instead permitted its ships to go to sea with no Federal precautions as to the depths to which they could safely load. Solely out of courtesy other nations refrained from applying to vessels of the United States their laws relating to load lines. These arrangements could not be expected to continue indefinitely. Thus, by the middle twenties, American shipping interests were becoming dependent upon foreign rules and regulations for the fixing of load lines for their vessels and had to make use of such regulations if they were to avoid penalties and costly delays in the ports of nations which had recognized, by their laws, the importance of this safeguard to life and property.

In the late 1920's, the lack of any load line legislation by the United States was attracting attention both at home and abroad. Aside from the importance of relieving our commerce of liability to delays and difficulties because of lack of legislation of this nature, the matter of the safety of crews was most important. In a case in Great Britain involving the loss of the U.S. steamer *Eastway*, the vessel was found to have been so overloaded that her load line mark was considerably submerged prior to departure. The attorney general who conducted the case stated:

> This case has an aspect of very serious public importance. The lives of those today sailing the seas may well depend upon the verdict if the verdict be such as to encourage others to continue such practices as the prosecution allege resulted in the loss of the *Eastway* * * *. If people choose to gamble with the lives of sailors to put money into their pockets, I hope the jury will say that that is a practice which can not be carried on which impunity.

Mr. Justice Wright in charging the jury, said:

> I am not sure whether some of the witnesses do not think it a laudable thing to overload ships. * * * There has been for the past half century in this country legislation which has the object of securing as far as possible that the lives of those who go to sea should not be needlessly and wickedly injured.

It, of course, should not be possible for vessels, American or foreign, to place additional profit through excessive load ahead of those on board. As has been stated, "the master is not always a free agent, and the honest and conservative shipowner, constituting the great majority should not be subjected to such competition."

In 1929 a bill requiring load lines on American vessels was introduced in Congress. This bill, entitled the Load

Line Act of March 2, 1929, was passed and finally became effective in September of 1930. For the first time in load line history it was now possible for American ships to enter foreign ports on a legal parity with other ships rather than by virtue of international courtesy. The rules and regulations adopted under the act were based to a considerable extent on a most exhaustive study of ship construction and loading by a technical committee appointed for the purpose in 1928 by the Secretary of Commerce. In these regulations due consideration was given to and differentials made for the various types and character of vessels and the trades in which they were engaged.

At about this time, the United Kingdom called for an international conference on load lines to be held in 1930. The technical committee established for consideration of national regulation was invaluable in providing the United States with expert knowledge required for the international conference. The conference brought forth the first international instrument for universal regulation of load lines. Emphasis was placed for the safety of the crew in the performance of their duties as well as for securing and maintaining an effective closing of the openings in the weather decks and sides of ships. The oceans of the world were divided into weather zones regulating the depth to which a vessel could be loaded in those zones dependent upon the average weather conditions therein.

The United States became the first to ratify this convention on February 27, 1931. The convention became internationally effective on January 1, 1933.

Since 1930 great changes have occurred in ship design and construction, shipbuilding technology, and ship operation. New types of closing appliances, in particular metal hatch covers, have improved the watertight integrity of ships. Other technical developments (the extensive use of welding, the rounded gunwale, etc.) have also become widespread. The vast increase in the size of ships, particularly tankers and bulk carriers, has made it necessary to extend the existing freeboard tables to cover ships up to a length of 1,200 feet, doubling the length covered by the present table. All these considerations, together with the experience gained from the use of the 1930 convention, merited a sweeping revision, but under its provisions, it is necessary to have unanimous agreement among its contracting governments to make any amendment effective. It is all but impossible to reach complete mutual consent particularly as several members are not now speaking to one another and, further, with the tremendous change in governments since 1930, it is questionable just who is a member. The unlikelihood of attaining such unanimity strengthened the need for a completely new convention.

With this in mind, the United Kingdom as bureau power for the 1930 convention called, in 1957, for a new conference on the subject to be held under the sponsorship of IMCO in conjunction with the 1960 International SOLAS Conference. To prepare for these conferences the Secretary of State, through the Secretary of the Treasury, requested the Commandant of the Coast Guard to initiate and coordinate the preparation of the U.S. proposals. To carry out this edict, the Commandant, in 1958, established the U.S. Load Lines Committee. The Committee was made up of some 30 members representing various segments of the maritime industry. It immediately commenced its task using as a starting point the various proposals the United States had submitted in the past for consideration of amending the 1930 convention. However, due to the heavy workload imposed on maritime nations in preparing for the 1960 SOLAS Conference, the United Kingdom canceled its call for a Load Lines Conference. Nevertheless, the U.S. Load Lines Committee was not disbanded and its work continued.

In January 1961, at the fourth session of the Council of the Intergovernmental Maritime Consultative Organization (IMCO), the United States proposed a resolution "that the assembly authorize a conference to adopt a load lines convention and invite the Maritime Safety Committee to determine what preparations are necessary." The Council decided to postpone consideration of the proposal for 1 year. The United States again presented the same proposal at the sixth session of the Council in February 1962. With a few changes, this proposal was adopted. Accordingly, following recommendations of its Maritime Safety Committee and Council, the Assembly of IMCO decided, at its third session in October 1963, that the Organization should convene an international conference on load lines in the spring of 1966, in order to draft a new convention and thus bring the load line regulations into accord with the latest developments and techniques in ship construction. The invitations to the conference were sent to Member States of the United Nations, its specialized agencies and the International Atomic Energy Agency, as well as to a number of intergovernmental and international nongovernmental organizations.

The United States was in an excellent position for this conference due to the work of the U.S. Load Lines Committee. Realizing the obvious advantage of having a U.S. proposal as a working document during the conference, the U.S. Load Lines Committee finalized its work and presented a draft convention. This draft was forwarded to IMCO through the Department of State. IMCO circulated this document to all member governments suggesting their proposals be submitted in the form of comments on the United States draft convention.

Prior to the start of the conference, 21 governments had submitted comments on the U.S. draft convention, including the U.S.S.R. which had submitted a complete draft text of its own.

The United States participated in this conference with an 18-man delegation headed by the Commandant of the Coast Guard. The remainder of the delegation consisted of representatives from various maritime organizations, a legal representative from the Department of State and four additional Coast Guard representatives, almost all having had previous experience on the U.S. Load Lines Committee.

The conference set up three main committees, namely, the General Committee, the Technical Committee, and the Zones Committee. The General Committee considered questions relating to the legal aspects and general provisions of the proposed convention as well as the form and contents of the Load Lines Certificate. The Technical Committee was responsible for considering matters relating to the assignment of load lines for all vessels. And the Zones Committee considered questions relating to the determination of boundaries of zones and seasonal areas as well as the seasonal periods for these areas.

It was decided early in the conference that the format for this convention should be as similar as possible to the 1960 SOLAS Convention even to adopting the same wording when covering identical subjects. It has long been felt both here and abroad that the 1960 SOLAS Convention and the Load Lines Convention should be merged into one as they both speak to safety of life at sea. In fact the conference stated in a recommendation

annexed to the convention that "recognizing the common aims of the International Convention for the Safety of Life at Sea, 1960, and the International Convention on Load Lines, 1966, concerning the safety of life and property at sea, recommends that the Intergovernmental Maritime Consultative Organization should consider the relationship between the provisions of the two conventions with a view to suggesting how they could be consolidated in a single international convention."

As compared with the 1930 convention (currently in force), the new convention introduces a number of changes, the most significant of which is the reduction in freeboards for large ships of over 550 feet in length. There was lengthy discussion on the relationship between freeboards and subdivision and stability; and as a result, the subdivision concept has been introduced into the assignment of freeboards for large ships. Large tankers and large ore carriers which meet the prescribed subdivision and other conditions will have their freeboards reduced about 10–15 percent. Large dry cargo ships having steel hatch covers will have their freeboards reduced about 10 percent. Such vessels having dogged type hatch covers and complying with subdivision conditions may be permitted further freeboard reductions with a maximum total reduction of 20–25 percent. On the other hand the freeboards of small ships under 300 feet in length, when fitted with little or no superstructure, will be slightly increased in order to improve the range of stability and other safety conditions. For small ships having wooden hatch covers a further freeboard increase of about 2 inches applies.

In the Zones Committee the conference established criteria for estimating weather conditions and these criteria were used as a basis when defining the zones, areas, and seasonal periods.

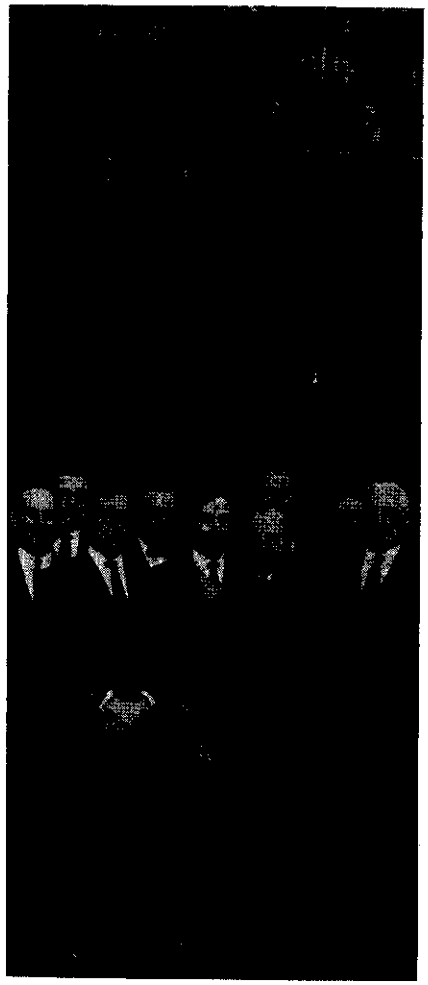
The boundaries of the winter seasonal zones were changed considerably, particularly in the North Atlantic and the South Pacific. The new boundaries will permit ships sailing round the Cape of Good Hope and south of the coast of Australia to remain within the summer zone. The Baltic Sea, the Black Sea, the Mediterranean, the Sea of Japan and part of the Atlantic Ocean along the east coast of the United States will also be considered as being within the summer zone; however, for small ships, these regions will remain winter seasonal areas requiring additional freeboard.

The conference also considered the possibility of assigning load lines to fishing vessels. While deciding that fishing vessels should not be included in the convention, it was agreed that IMCO should pursue studies on the minimum freeboard for such vessels, the object being to establish recommended international standards.

The U.S. delegation felt that the convention brought forth is an acceptable and workable one and will accomplish improvements in safety as well as in the economics of shipping. It will be a convention that has a suitable amendment clause similar to the SOLAS conventions, to permit the initiation of needed changes without requiring unanimous consent or a new conference to put into effect the lessons of tomorrow. We will not have to wait another 30 years to update and improve this convention to keep it abreast of changes in the maritime industry.

The 1966 Load Lines Convention will come into force 12 months after it has been accepted by at least 15 countries, 7 of which possess not less than one million gross tons of shipping. To date 4 countries have deposited their instruments of acceptance with IMCO. The Senate of the United States has given its advice and consent to ratification of this load lines convention. It is now hoped that our instrument of acceptance will soon be deposited with IMCO.

As I stated previously, the United States was the first country to ratify the 1930 International Load Lines Convention, due, I feel, in a large measure to its then recently completed work on the 1929 Load Line Act and possibly in part to a feeling of guilt in not having had legislation in this area a long time before. Over 30 years later we find the United States still in the forefront for the safety of seamen as it was at the instigation and insistence of the United States that IMCO convene this second conference on load lines. It now seems fitting that the United States maintain its lead in the safety of its seamen and ships and urge for universal acceptance of the International Convention on Load Lines, 1966. ⚓



Samuel Plimsoll has visitors—a delegation before a monument to the prime mover of the load line. Coast Guard delegates include: Far left, Commander Goddu; 4th from left, Captain Archibald McComb, Chief of the Coast Guard's International Division; 4th from right, rear row, Captain Ben Shoemaker, formerly Deputy Chief, Office of Merchant Marine Safety; far right, Adm. E. J. Roland, former Commandant, and Chief of the U.S. delegation.

ON SHIPBOARD WELDING

Shortly after World War II a few ingenious chief engineers began to build their own welders using parts of the wartime degaussing equipment plus a few items slipped in on the voyage stores requisition that missed the eagle eye of the purchasing department.

Because most of these men had a pretty clear understanding of the principles involved, these crude welders performed quite effectively. Troubles began when the original builder left the vessel and someone not quite as knowledgeable or competent took his place.

Ladder rungs would not hold, padeyes pulled away from the deck, a slight pressure against the railing and "splash," so that these homemade welders had to be removed. However, the basic value of electric welding equipment aboard ship had been recognized and gradually well-designed units were put aboard vessels on a fleetwide basis.

Still, using shipboard welders and shipboard electricity has certain inherent disadvantages when compared to a shipyard, where the range of electrical power, sophisticated equipment, and most important of all the use of certified welders can tailor the equipment to the job. So, while the addition of this equipment has proven invaluable on board, its use can also be hazardous should it be used improperly. For example, it is critical on new construction where special high-strength alloy steels are used in places to employ only the special equipment and technique recommended by the suppller.

Some points to be considered before welding aboard are:

1. Before any welding is attempted surrounding areas should be thoroughly checked, to insure that these areas are free of explosive or flammable substances.

2. A fire watch must be maintained where the welding is being performed. Where it is impossible for one man to observe all areas, i.e., welding on a deck or bulkhead, an additional fire watch must be stationed in way of the opposite side of where the welding is being performed.

3. Proper protective equipment is a must. This includes suitable helmet, long-sleeved shirt, heavy canvas or asbestos gloves, asbestos sleeves, and goggles for chipping slag. Portable shields should be set up to protect passersby from "welder's flash." Fire watch should have tinted goggles.

4. Adequate ventilation is imperative. In closed areas provision should be made to supply fresh air and dissipate the fumes. Mechanical blowers are far more effective in this respect than natural ventilation.

5. Welding equipment must be the responsibility of the Chief Engineer. He must satisfy himself that all elements are of proper size and capacity and see that it is properly maintained in this condition.

6. The Chief Engineer must also be the one to authorize each job to be done after satisfying himself that it will be safe to do so. Further he should not allow anyone to do a job unless he satisfies himself that the individual is competent.

Last, certain types of welding should never be attempted aboard except in an emergency. Such things as pressure vessels, padeyes, and ladder rungs whose failure would have serious consequences are best left to the shipyards and the certified welders. ⚓

By Robert H. Smith and George W. Kroh (U.S. P. & I. Agency)

TOOLS IN YOUR HANDS

Every handtool has to be used in a different way. You don't swing a sledge as you would a tack hammer, or use a pipe wrench as you would a screwdriver. But there are some things we can say about handtools in general—and most of those things concern what to do about handtools *before* you start actually using them.

The first thing is to choose the right tool for the job. Maybe that sounds obvious, but the fact is that a whale of a lot of handtool accidents occur when somebody tries to use a tool for a job it wasn't designed to do.

Men often misuse a screwdriver as a chisel—and that sort of misuse costs many an eye and many a cut. Pipe wrenches are often misused for hammers, and that's a real hazard to fingers and to bystanders if the jaw should fly. Even the old, familiar error of using a pair of pliers as a wrench is hazardous, because when it slips it can hurt the man as well as mangle the work.

So take time to get the right tool for the job at hand. It'll help you do a better job and at the same time help prevent accidents.

The next step is a good close inspection of the tool you're going to use. Look over any woodhandled tool for splits, checks and splinters, and make sure the head is wedged on tightly. The price of using a tool with a bad handle may be a pinch or cut or splinter in your flesh. Or, what is even more serious, you may send the head of the tool flying with all the force of your hard swing, endangering every person near you in the ship.

Check every chisel for defects, particularly for a mushroomed head. Those hammered curlicues of steel are likely to be sent flying into the eye of anyone around, including you, the first time you hit the chisel hard.

Make sure that every tool is in good operating condition—that the screwdriver is dressed square, that the saw, knife, or chisel is sharp, that the wrench or pliers is tight and sound. Remember that any defect in the tool makes your job harder and more hazardous.

Even when you have the right tool and are sure it's in good condition, there remains one other precaution to take before you start work. That is to protect yourself with proper equipment.

Different jobs require different protective equipment, but here's one general rule to remember: Any time you use a handtool that strikes metal against metal or stone, or which turns metal against metal, protect your eyes.

Proper goggles and face shields are available for every job that requires them. Wear your protection, whether you are doing a job yourself that may send hard fragments or sparks flying, or whether you are near somebody doing such a job.

So, here are the steps: Select the right tool, inspect it for defects and replace or repair it before using it, and protect your eyes. When you've done these things, then you're ready to go to work, and use the specialized skills and safety rules of the individual job and the individual tool. ⚓

From Safety Review U.S. Navy

Lifeboat Launching Gear Failures

A REVIEW OF casualties involving lifeboats and associated equipment reported to and investigated by the Coast Guard during the past 4 fiscal years revealed a number of correctable problem areas. The failure of wire boat falls accounted for nearly 50 percent of these casualties and claimed one life. The remainder of the casualties were attributed to various other materiel and electrical failures.

Of the many casualties involving the failure of wire falls, the most common cause was lack of maintenance in areas which, under normal conditions, are inaccessible. It was generally discovered after careful examination that the falls had parted at points which are in the vicinity of sheaves and guards while the boat is in a stowed position. Different contributory causes, however, gave a unique aspect to several of the casualties.

CASE 1—The only casualty in which there was loss of life involved gravity davits and occurred while raising the boat to the stowed position. Although this casualty was previously referred to in an article entitled "Failures in Wire Ropes" which appeared in the July 1963 Proceedings, it is a primary example of the problems which involve wire lifeboat falls. The boat had been lowered to the boat deck for fueling. While the boat was at the level of the boat deck railing, the boatswain ordered the strongback and cover installed. The victim and several other crewmembers put the strongback in place and spread the cover; whereupon all except the victim and one crewmember left the boat. The boatswain told both men to hold on and began raising the boat toward its stowed position. The boat traveled a short distance and the after fall parted. The pelican hook of the tricing line then fractured, and the after end of the boat dropped throwing both men, the strongback, and cover into the water. Neither man was wearing a lifesaving device. One man was pulled from the water; however, the second crewmember could not be found.

Subsequent examination of the broken fall revealed that it broke 14 feet from the dead end in way of the guide sheaves at the head of the davit trackway. The bracket supporting this sheave covered it for at least half of its diameter making it difficult to examine the wire in this area with the boat in a stowed position. Visual examination indicated a lack of lubrication and no maintenance records were available. Laboratory tests showed that many of the wires in way of the break were corroded and that there was considerable wear in the area.

"Lessons from Casualties" are prepared by Lt. (jg.) Hollis Thomas Fisher; a native of Edgartown, Mass., a graduate of the University of Virginia.

A number of precautionary maintenance and safety measures could have prevented this failure and the resultant loss of life. The falls should have been carefully scrutinized and lubricated, not only while the boat was in the stowed position, but also after drills or use in order to assure that the normally inaccessible areas received the proper maintenance. The person in charge should have instructed the crew to wear lifesaving devices while working with the boats. In addition, he should have ordered the men from the boat before raising it to its stowed position. This is of particular significance since the falls are under increased stress due to the weight of the davits and boat while moving to a stowed position.

CASE 2—Another noteworthy casualty of a similar nature occurred as a boat drill was getting underway aboard a tanker. Three men boarded the boat to perform the necessary duties prior to launching. When the boat was ready, the gripes were released and the boat swung out. When the boat was about three quarters fully swung out, the forward fall broke. As the bow dropped, the after fall parted and the boat fell to the water. Two of the crewmembers were severely bruised; however, the third who was holding a manrope was pulled back aboard the vessel.

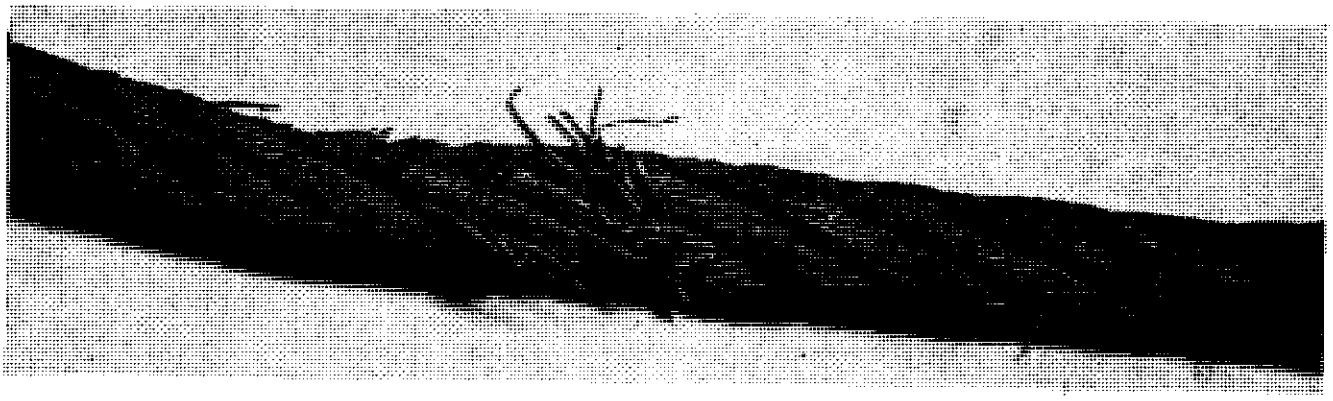
Subsequent examination revealed that both falls failed in way of the single-sheave blocks attached to the releasing gear hooks at each end of the lifeboat. Although the falls were frequently slushed and appeared to be in good condition, investigation showed considerable pitting of the outside wires of each strand and a dry and rotted fiber core.

In addition to the previously noted preventative measures, this incident indicates that special steps must be taken to assure that the lubricant penetrates the wire. For his reason, a heavy grease or other coating is not desirable. The lubricant must be light enough to penetrate entirely in order to permit free movement of individual wires and strands when the whole is put under stress.

CASE 3—In another instance, a boat was being cranked inboard during a boat drill and the after fall parted. This was followed momentarily by the failure of the forward fall. In the case of both falls, the failure was in an area which is normally covered by sheaves.

Subsequent examination of visible areas revealed that the wire rope which failed appeared to have been properly maintained since there were no fishhooks or obvious pitted areas. The wire which was the proper size was obtained and installed in a foreign port and no test data concerning the capacity of the wire was available.

Aside from lack of maintenance in hidden areas, this casualty might have been avoided if other precaution-



And this was the wire rope fall that didn't break!!

ary measures had been taken. Prior to installation, the actual strength or capacity of the wire should have been ascertained in order to insure that it would support the required load.

CASE 4—One other instance in which falls failed in an inaccessible area involved additional equipment which was not a component part of the lifeboat launching apparatus, namely, a portable pneumatic tool. It was the practice on this vessel, which was equipped with single pivot mechanical davits, to raise the lifeboats utilizing this tool in conjunction with the mechanical winch, cutting the power to the portable tool when the davit arms engaged the stops. At this point the boat is ready to be griped. There are no limit switches.

This procedure was being followed while returning the boat to its stowed position after a boat drill. The safety hooks at the head of the davit arms engaged and locked the boat at the maximum outboard position. The davit arms then began to rotate to their normal stowed position. Winch power continued, and the davit arms made solid contact with their stops at the maximum inboard position. The forward fall parted, followed almost simultaneously by the after fall.

Although subsequent examination showed that the wastage of the outer wires was localized in areas in way of the sheaves, the primary cause of the casualty was the "two blocking" of the davit arms. This casualty could probably have been avoided if the davit arms had been stopped, before reaching the stops, and then cranked to a stowed position.

The remaining 50 percent of casualties to lifeboat launching apparatus and associated equipment involved various electrical or materiel failures other than wire boat falls. The following incidents typify these casualties, all of which could have been prevented by proper maintenance and supervision.

CASE 5—While berthed starboard side to, work was in progress preparing a freight vessel for inspection. The Number 2 boat was lowered to boat deck level where two seamen entered with painting gear. Suddenly, the after pendant parted permitting the boat to swing out; within seconds, the forward tricing pendant also parted. One crewmember was thrown from the boat, struck the ship's side, and fell to the water requiring rescue by his fellow shipmates.

This vessel had one large, 70 person, lifeboat on each side. The boats had tricing pendants equipped with pelican hooks for quick release. Each pendant was approximately 5 feet long made from half-inch wire with a hemp core. The inboard end of all pendants had thimbles at the spliced eye. The outboard eye secured to the boat fall sheaves via pelican hooks; however, the outboard eyes were not provided with thimbles.

Upon examination of the old tricing pendants, it was discovered that the port lifeboat pendants had parted at the end with no thimble in the spliced eye. The outer surface of the pendant was covered with white paint, and the broken segments showed age and rust with crushed and broken strands.

This failure which resulted in unnecessary injury to a crewmember could have been averted if the supervisory personnel on the vessel had recognized and corrected the potentially dangerous situation. Thimbles should have been installed when the pendants were originally made up as a matter of good seamanship. While the lack of thimbles created an unsafe situation, it would have been more readily apparent and could have been more properly maintained if paint had not been applied to the pendants. In addition, it is commonly known that there is a tendency to place excessive strain on tricing pendants.

CASE 6—During a short voyage between two foreign ports, a fire and boat drill was conducted. The boats were lowered to the railing; however, they were not put over the side since the gangways were out. While hoisting the Number 2 boat, the limit switch failed to stop the boat, and the seaman who was at the controls failed to use the emergency cutoff switch. The failure of the limit switch caused the after fall, which was only 6 months old, to part and drop the boat on the railing, pulling the forward davit aft.

Investigation revealed that the limit switches had been opened and cleaned by the second electrician 7 days before the accident. Upon further inspection by the Chief Engineer and Chief Electrician, the limit switches were discovered to be incorrectly wired thereby causing the failure.

This casualty could certainly have been prevented if any of the supervising personnel had examined the work of the second electrician upon completion.

CASE 7—A tank vessel recently suffered damage to her Number 1 lifeboat when its Mills type releasing gear failed during a full load suspension test. Subsequent inspection of the boat disclosed the welding on the upper pin separating the cheek plates to be broken in way of the starboard cheek plate. The port cheek plate was warped outward approximately 2 inches. The lower pin was found to be straight and not bent. This pin was made of round brass stock, appeared to be hand cut by hack saw, and had no holes at either end for split pins.

This casualty should not have occurred and the above "home made" repairs to both pins should not have been made since Mills type releasing gear is no longer approved. Such gear may be continued in service so long as they are maintained in good con-

(*Continued on page 254*)

MARITIME SIDELIGHTS

COTP MOVES TO GOVERNORS ISLAND

The Captain of the Port of New York has moved from the Coast Guard Station at Battery Park in Manhattan to their new home on Governors Island. More than 250 officers and men and 21 harbor vessels were involved in the transfer. The move is a major step in the consolidation of Coast Guard activities in the New York area to one location—Governors Island.

The Captain of the Port is responsible for port security and Federal law enforcement in this, the world's largest and busiest harbor. He and his staff receive reports from more than 12,000 ships that enter the port annually.

The only activity of the Captain of the Port that will remain in Manhattan will be the Port Security Card issuing unit which has moved to 21 Trinity Place.

The Port Security Card Issuing Office issues some 6,000 cards a year to persons who have regular public or private business on the Port of New York waterfront. The office maintains records on 445,000 Port Security Card holders.

Among the numerous tasks performed by Coast Guardsmen serving under the Captain of the Port are: supervising the loading of explosives and dangerous cargoes, firefighting, harbor patrol and inspection of waterfront facilities. The Captain of the Port's jurisdiction covers 600 miles of waterfront in the greater New York area, extending from Sandy Hook, N.J., to Dobbs Ferry, N.Y.

The Captain of the Port, Captain Joseph Mazzotta, USCG, also serves as the Commander, Coast Guard Group, New York, which includes several lighthouses and other navigational aids around the port and in the Hudson River.

The Coast Guard's New York Merchant Marine Inspection Office, presently located in both the Customhouse at Bowling Green and at 21 Trinity Place in lower Manhattan, will move to the vacant Battery Park Coast Guard Building early next year after renovations are completed ⚓

NATIONAL SAFETY COUNCIL MARINE SECTION HEAD

F. C. Grant, Vice President, United States Lines Co., was elected General Chairman of the Marine Section, National Safety Council, at the annual Chicago meeting. Mr. Grant, who has been Vice General Chairman during the past year, succeeds Wainwright Dawson, Safety Engineer, Bethlehem Steel Corporation.

Elected to the office of Vice General Chairman was Joseph Andreae, General Manager, Marine Department, Humble Oil and Refining Co.

C. Bradford Mitchell, Director of Information, American Merchant Marine Institute, was re-elected Marine Section Secretary, and Hubert F. Carr, Secretary of Moore-McCormack Lines, Inc., was named Assistant Secretary. ⚓

PUBLIC LIBRARY OF THE HIGH SEAS 44TH YEAR

The "Public Library of the High Seas" has just completed 44 years of supplying seagoing library units to the men who go to sea in American-flag ships. During this period of time, more than 249,626 library units, containing 14,911,532 books were distributed by the American Merchant Marine Library Association port representatives to the American Merchant Marine—"Our Fourth Arm of Defense." In 1965, the Association delivered 4,959 library units requiring 4,608 services, compared with 5,353 library units being delivered through 5,083 ship services in 1964. Included in the above total is service to 33 Coast Guard and MSTS vessels who received 62 seagoing library units through 55 individual services by an AMMLA port representative.

In addition to the seagoing library service, the Association also maintains shore library facilities at each of the U.S. AMMLA port offices. Here, individual seamen may borrow specific titles as well as books of study for use during sea voyages. A unique feature of the shore library permits the borrower to return books to any AMMLA port office.

In order to provide this service, the Association is entirely dependent upon its many loyal friends for support. Last year, 5,729 individuals and organizations donated 242,350 books, 95,620 pocket books, and 559,409 magazines. ⚓

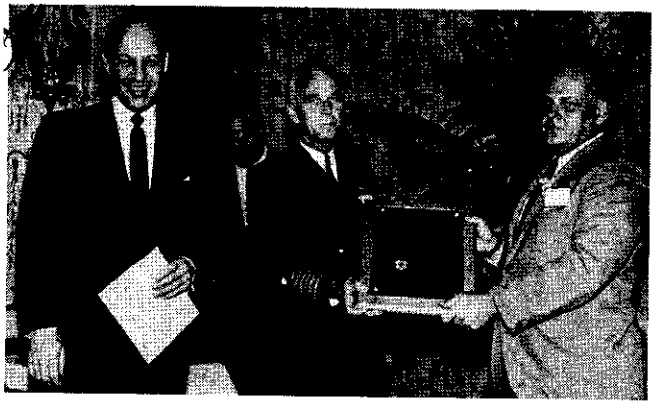
COAST GUARD SEARCH AND RESCUE SCHOOL

The world's first school devoted exclusively to search and rescue has opened at the Coast Guard Base, Governors Island, N.Y. Selected students, representing national and international military and civilian organizations, attend the intensive 4-week course. The participants were trained in the methods of saving life and property.

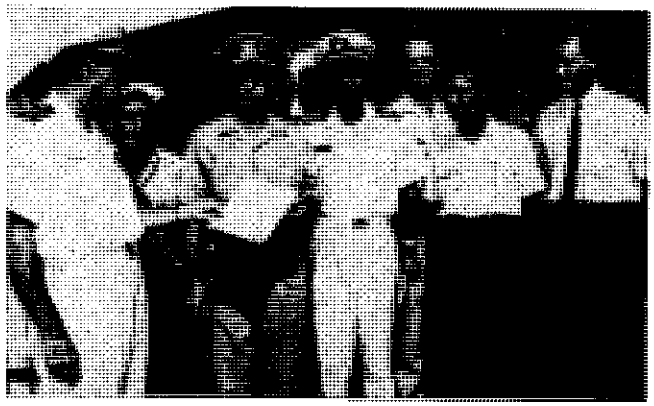
The Coast Guard Search and Rescue School, headed by Cmdr. Clarence C. Hobdy, Jr., USCG, is staffed by seasoned Coast Guard and Air Force instructors. Commenting on the scope of the course, Commander Hobdy said, "All aspects of search and rescue are taught here, covering missions in every conceivable environment . . . over water, under water, inland, and even outer space." Using a mock-up rescue coordination center, students work on simulated search and rescue cases. They learn how to plot a distress, organize the lifesaving facilities at hand and deploy their forces to form an effective, coordinated search.

According to the U.S. National Search and Rescue Agreement of 1956, the Coast Guard is responsible for search and rescue operations at sea and the Air Force is responsible for inland search and rescue.

For a number of years, both the Air Force and the Coast Guard have felt the need for such a school that would train men in the methods of worldwide search and rescue. ⚓



J. M. Dempsey, Jr., Vice President, States Marine Lines, holds First Place Award in National Safety Council Contest for oceangoing cargo and passenger ships with Adm. Willard J. Smith, Commandant, U.S. Coast Guard, while Assistant Secretary of the Treasury W. True Davis, who had just made the award, stands at left. This was one of three National Safety Council awards and 27 Jones F. Devlin Awards which were presented by Secretary Davis to representatives of 10 U.S.-flag steamship companies at the National Convention of the Propeller Club of the United States in Washington, D.C.



Presentation of Commander, 14th CG District, Honolulu, Hawaii, Letter of Commendation to Captain Gustav Askenback, Master, USNS General H. H. Arnold. *Front row, left to right, Captain H. J. Kelly, USCG, Officer in Charge, Marine Inspection, Honolulu; Captain Askenback; Captain W. M. Price, USN, MSTS, Honolulu; Mr. Roy Ward and Captain John Thorton representing Theo H. Davies & Co., Ltd., Agents for Vessel; and,* Gen. Arnold *crewmembers in rear row.*

COAST GUARD HONORS MSTS VESSEL FOR RESCUE

At about 0430, 7 September 1966, while the USNS vessel *General H. H. Arnold* was en route Honolulu from Freemantle, Australia, a crewmember was found to be missing. At the instruction of Capt. Gustav Askenback, a Williamson Turn was immediately executed to take the vessel on a reciprocal course while a search of the vessel was conducted for the missing crewmember, who had been last seen at about 0230. Numerous lookouts which, at times, included up to 50 men were posted on the main deck and superstructure.

The missing man was not found aboard the vessel, so Captain Askenback maintained the reciprocal course until 0700 when computations indicated the vessel had passed through the extreme limits of the area in which the missing man could be. At this time another Williamson Turn was executed and the vessel brought back to her original course.

At 0808, the crewman was sighted off the port quarter at about 100 yards. Several pieces of lifesaving equipment were thrown toward him. Due to increasing winds, choppy seas, and glare on the water, he was lost from view while the vessel turned. A search pattern was set up which ultimately, at about 1250, resulted in locating the missing man. A timely dispatch of the motor whaleboat resulted in effecting the rescue, saving the seaman's life.

Captain Askenback and crew were commended by the Coast Guard for their exemplary action in this matter, which is in keeping with the highest traditions of the U.S. merchant Marine. ⚓

NATIONAL SAFETY COUNCIL AMMI AWARDS MADE

High achievement by American seamen and American steamship companies in the field of safe ship operation received official recognition at the 40th American Merchant Marine Conference when Assistant Secretary of the Treasury True Davis presented Jones F. Devlin Awards to 27 tankers and dry-cargo ships of nine oceangoing companies. Acting on behalf of the American Merchant Marine Institute, sponsor of the Devlin Awards, Secretary Davis made the presentations at the "Unity of Purpose" luncheon held at the Mayflower Hotel as an event of the 1966 Propeller Club Convention.

To qualify for a Devlin Award, a vessel must be able to show a record free of lost-time crew accidents for at least 2 years. Since ships, unlike most industrial plants on shore, must operate continuously around the clock, with all the hazards of the sea added to those of normal work routines, such a record reflects effort, care, and teamwork of the highest order. Any ship which succeeds in extending her clean record to 4 years receives an award of higher grade. Thereafter she earns annual special awards as long as her perfect score continues.

Highest honors were taken by the tanker *Texaco Wyoming,* of Texaco Inc., with an unblemished safety record at the start of 1966 of 3,315 days, or more than 9 years. Other special awards went to the *Esso Dallas,* of Humble Oil & Refining Co. (7 years); *Texaco Louisiana* (6 years); and *Eclipse,* of the Mobil Oil Co. (5 years). Five ships were cited for 4-year records, while 18 topped the 2-year mark. The owning companies other than those already named, were Delta Steamship Lines, Lykes Bros. Steamship Co., Sinclair Refining Co., Sun Oil Co., United Fruit Co., and United States Lines Co. The total safe operating time reflected in the record of these 27 ships was nearly 63 years.

Secretary Davis also presented three awards conferred by the National Safety Council on three American-flag ship operators which attained the lowest fleetwide accident frequency rates in the Council's annual contest. Winner and runner-up in the oceangoing dry-cargo and passenger ship category were States Marine Lines and United States Lines, respectively. Winner in the ocean tanker class was Texaco Inc. ⚓

STATISTICAL SUMMARY OF CASUALTIES TO COMMERCIAL VESSELS*

1 July 1965 to 30 June 1966

Fiscal year 1966

	Nature of casualty																
	Collisions; crossing, meeting and overtaking	Collisions, while anchored, docking or undocking	Collision, fog	Collisions with piers and bridges	Collisions, all others	Explosion and/or fires—cargo	Explosion and/or fires—vessel's fuel	Explosion and/or fire—boilers, pressure vessel	Explosion and/or fire—structure, equipment, all others	Grounding with damage	Grounding without damage	Founderings, capsizings and floodings	Heavy weather damage	Cargo damage	Material failure—structure and equipment	Material failure—machinery and engineering equipment	Casualty not otherwise classified	Totals
Number of casualties	151	141	31	272	327	31	23	10	111	302	251	315	63	4	98	243	35	2,408
Number of vessels involved	453	304	71	376	467	34	23	10	118	364	270	351	64	4	99	243	42	3,293
Number of inspected vessels involved	137	128	32	175	183	23	4	10	24	131	173	29	51	4	82	136	28	1,350
Number of uninspected vessels involved	316	176	39	201	284	11	19	------	94	233	97	322	13	------	17	107	14	1,943
Primary cause																		
Personnel fault:																		
Pilots—State	14	1	4	------	2	------	------	------	------	4	8	1	------	------	------	------	5	39
Pilots—Federal	2	3	4	1	3	------	------	------	------	4	1	------	------	------	------	------	1	19
Licensed officer—documented seaman	29	6	12	15	8	2	1	1	1	23	9	1	------	3	3	16	1	131
Unlicensed—undocumented persons	54	10	13	5	9	1	3	------	5	53	9	1	------	------	------	3	------	177
All others	28	8	5	20	13	14	1	------	29	10	15	14	------	------	11	5	11	184
Error in judgement—calculated risk	23	26	3	71	34	------	------	------	------	40	51	5	1	------	2	------	1	257
Restricted maneuvering room	9	41	------	75	24	------	------	------	------	12	40	1	------	------	1	------	7	210
Storms—adverse weather	------	22	------	27	49	1	------	------	1	71	14	113	60	------	10	2	4	374
Unusual currents	2	4	------	14	14	------	------	------	------	5	6	3	------	------	1	------	1	50
Sheer, suction, bank cushion	13	4	------	2	3	------	------	------	------	6	6	2	------	------	------	------	------	36
Depth of water less than expected	1	------	------	5	3	------	------	------	------	36	54	1	------	------	------	------	------	100
Failure of equipment	6	14	------	20	11	3	3	------	24	20	19	14	2	------	53	119	3	311
Unseaworthy—lack of maintenance	------	------	------	3	------	3	15	9	49	9	7	133	1	1	14	94	2	340
Floating debris—submerged object	------	------	------	3	136	------	------	------	1	3	2	8	------	------	------	------	------	153
Inadequate tug assistance	5	13	------	25	41	------	------	------	------	17	11	23	------	------	------	1	1	137
Fault on part of other vessel or person	265	149	30	90	112	3	------	------	4	50	18	18	------	------	2	------	5	746
Unknown—insufficient information	2	3	------	------	5	7	------	------	4	1	------	2	------	------	2	3	------	29
Additional contributing factors to cause of casualty																		
Hull and associated parts:																		
Plates and framing—steel	1	11	------	9	40	------	------	------	1	8	2	65	15	------	26	4	4	186
Planks and framing—wood	1	2	------	3	22	------	------	------	5	7	------	62	1	------	1	------	1	105
Tanks	------	------	------	2	1	7	------	------	1	1	------	12	3	3	6	2	------	38
Holds and hatches	------	------	------	------	------	6	------	------	4	1	------	7	4	1	5	1	------	29
Superstructure—bulkheads, decks	------	1	------	------	2	1	------	------	7	1	------	14	22	------	2	3	------	53
Ladders, gangways, rails and guards	------	------	------	------	------	------	------	------	------	------	------	------	3	------	------	------	------	3
Masts, booms and cargo gear	------	------	------	1	------	------	------	------	1	------	------	1	3	------	18	------	3	27
Rudder and stern tube	1	------	------	1	8	------	------	------	------	11	------	2	1	------	5	10	------	39
Watertight closures	------	1	------	------	1	------	------	------	------	------	------	53	2	2	2	1	------	62
Quarters and living spaces	------	------	------	------	------	------	------	------	14	------	------	2	1	------	------	------	------	17
Navigation and safety:																		
Lookout	30	9	6	2	7	------	------	------	------	4	------	1	------	------	------	------	------	59
Docks-piers—congested area	37	77	5	141	51	------	------	------	1	30	57	5	------	------	------	------	4	408
Channels—restricted areas	109	26	7	27	41	------	------	------	------	65	77	5	------	------	------	------	1	358
Buoys—aids to navigation	1	1	------	------	21	------	------	------	------	18	16	1	------	------	------	------	------	58
Excessive speed	33	5	22	9	7	------	------	------	------	2	4	2	------	------	------	------	6	90
Poor visibility	6	4	16	12	12	------	------	------	------	28	28	1	------	------	------	------	------	107
Steering gear	12	5	------	9	6	------	------	------	------	14	12	2	------	------	2	------	------	62
Radar	2	------	14	1	1	------	------	------	------	8	5	------	------	------	------	------	------	31
Fathometer—depth of water	------	------	1	------	12	------	------	------	------	1	------	1	1	------	------	------	------	16
Engine order telegraph	------	2	------	5	------	------	------	------	------	1	1	------	------	------	------	------	------	9
Navigation equipment—other	9	------	2	1	------	------	------	------	------	38	10	2	------	------	------	------	------	62
Navigation lights	13	4	2	6	3	------	------	------	------	------	------	1	------	------	------	------	------	29
Navigation signals	93	6	22	3	2	------	------	------	------	2	------	------	------	------	------	------	------	128
Weather (generally)	6	25	1	52	67	------	------	------	------	72	33	73	8	------	7	2	------	346
Currents and tides	18	23	------	64	36	------	------	------	------	26	35	15	------	------	------	------	3	220
Lifesaving equipment	------	1	------	1	3	------	------	------	------	------	------	4	5	------	12	------	3	29
Firefighting equipment	------	------	------	------	------	5	------	1	2	------	------	------	------	------	------	------	------	8
Miscellaneous:																		
Yard repairs	------	------	------	------	------	8	1	------	6	1	------	3	1	------	3	8	4	35
Improper loading or storage	------	1	------	------	4	21	1	------	2	1	------	36	15	2	10	------	2	95
Tug assisting	139	48	10	96	94	3	------	------	------	55	19	35	2	------	3	------	2	506
Anchor equipment	------	22	------	6	6	------	------	------	------	25	12	8	3	------	23	3	5	113
Towing equipment	5	8	------	9	12	------	------	------	------	7	6	18	------	------	------	------	3	68
Mooring equipment	2	60	------	24	40	2	------	------	------	22	6	35	3	------	------	1	13	208
Fishing equipment	3	------	------	1	5	------	------	------	2	6	------	8	2	------	2	1	2	32
Deck equipment—all other	------	------	------	------	------	------	------	------	------	------	------	------	1	------	1	------	------	2
Engineering:																		
Main propulsion machinery	5	8	------	17	70	------	18	------	17	16	12	21	------	------	2	155	5	346
Boiler parts and accessories	------	3	------	------	1	4	11	12	11	1	6	7	------	------	1	87	------	114
Machinery—all other	------	------	------	1	1	------	1	------	------	------	------	8	------	------	------	------	------	11
Tools and working spaces	------	------	------	------	------	2	5	1	26	------	------	8	------	------	------	4	------	46
Generators and other electrical equipment	2	------	------	2	3	2	5	------	41	1	3	2	------	------	------	32	------	93
Wiring, lights, controls	------	------	------	1	------	------	1	------	19	1	3	------	------	------	1	------	------	26
Steward's department:																		
Galley and steward's department equipment	------	------	------	------	------	------	------	------	10	------	------	------	------	------	------	------	------	10

See footnote at end of table.

STATISTICAL SUMMARY OF CASUALTIES TO COMMERCIAL VESSELS*—Continued

1 July 1965 to 30 June 1966

Fiscal year 1966

	Nature of casualty																	
	Collisions; crossing, meeting and overtaking	Collisions, while anchored, docking or undocking	Collision, fog	Collisions with piers and bridges	Collisions, all others	Explosion and/or fires—cargo	Explosion and/or fires—vessel's fuel	Explosion and/or fire—boilers, pressure vessel	Explosion and/or fire—structure, equipment, all others	Grounding with damage	Grounding without damage	Founderings, capsizings and floodings	Heavy weather damage	Cargo damage	Material failure—structure and equipment	Material failure—machinery and engineering equipment	Casualty not otherwise classified	Totals
Type of vessel																		
Inspected vessels:																		
Passenger and ferry—large	2	3	3	10	13			1		8	11	1	3		1	9	1	66
Passenger and ferry—small	7	3	2	6	14		3		9	10	6	9				8	3	80
Freight	25	60	15	86	69	13		7	10	38	84	3	30	3	57	73	18	591
Cargo barge	6	4	2	7	19					7	9	2	3		2		1	62
Tankships	15	22	6	22	25	2		2	2	21	42	3	11	1	14	29	2	219
Tank barge	82	23	3	37	33	8	1		1	39	9	10	1		1	1	2	251
Public		8	1	1	7				2	4	6		1		3	10		43
Miscellaneous		5		6	3					4	6	1	2		4	6	1	38
Uninspected vessels:																		
Fishing	33	16	11	5	52		10		44	86	18	89	4		8	96	2	474
Tugs	163	52	10	117	116	2	3		20	74	19	77	4			9	6	672
Foreign	44	53	11	16	25	5	2		6	32	45	1					3	243
Cargo barge	55	29	5	50	45	2			10	32	8	107	2		5		1	351
Miscellaneous	21	26	2	13	46	2	4		14	9	7	48	3		4	2	2	203
Gross tonnage																		
300 tons or less	216	91	25	119	207	4	20		81	173	53	228	11		10	114	14	1,366
Over 300 to 1,000 tons	114	57	9	88	98	9	1		18	70	29	101	3		7	9	4	617
Over 1,000 to 10,000 tons	102	109	22	128	116	15	1	6	13	82	114	19	26	3	57	70	12	895
Over 10,000 tons	21	47	15	41	46	6	1	4	6	39	74	3	24	1	25	50	12	415
Length																		
Less than 100 feet	189	74	23	99	176	3	20		77	163	45	202	8		7	110	11	1,207
100 to less than 300 feet	194	102	15	145	161	15	1		23	112	48	145	10		13	19	7	1,010
300 to less than 500 feet	45	66	15	62	76	9	1	6	12	40	94	1	20	3	49	52	14	565
500 feet and over	25	62	18	70	54	7	1	4	6	49	83	3	26	1	30	62	10	511
Age																		
Less than 10 years	199	114	20	127	147	13	4	1	27	101	72	90	18		22	78	12	1,045
10 to less than 20 years	158	69	20	100	124	6	10	1	29	105	57	126	7		11	62	12	897
20 to less than 30 years	64	78	26	101	140	14	5	8	36	83	94	72	33	4	57	89	18	922
30 years and over	32	43	5	48	56	1	4		26	75	47	63	6		9	14		429
Location of casualty																		
Inland—Atlantic	14	16	7	40	46	10	5	3	20	72	84	40	2	1	17	20	9	406
Inland—Gulf	68	55	5	67	101	8	5	3	32	62	71	101	5		6	8	5	602
Inland—Pacific	8	15	5	30	41	2	4		17	36	20	20		1	10	13	10	232
Ocean—Atlantic		1	4	2	14	2	2	1	5	12	10	12	20	1	5	26	2	119
Ocean—Gulf	11	1	1	3	26		3		13	24	3	43	5		8	99	2	242
Ocean—Pacific	5		4	3	13	3	1		12	13	2	25	20	1	16	27	2	147
Great Lakes	6	15	1	60	25				4	27	38	6	2		9	19	1	213
Western rivers	22	14	1	45	28	3	3		6	36	1	65	2		4	1	1	232
Ocean—other	1	2		1	6					4	2	3	5		3	6		33
Foreign waters	16	22	3	21	27	3		3	2	16	20		2		20	24	3	182
Time of day																		
Daylight	60	76	16	154	169	21	14	6	54	111	126	147	37		68	143	25	1,227
Nighttime	86	60	15	103	140	9	8	4	53	178	112	151	25	4	26	91	9	1,074
Twilight	5	5		15	18	1	1		4	13	13	17	1		4	9	1	107
Estimated losses—units of thousands																		
Vessel	8,671	2,262	3,018	2,041	6,303	2,730	1,608	157	4,877	15,746		40,255	2,213	1	889	3,833	535	95,139
Cargo	448	30	91	462	157	606	1		120	663		2,908	577	105	1,272	1	13	7,454
Property	60	38		2,352	295	76	4	2	70	62		28			23		121	3,131
Vessels totally lost																		
Inspected	3		1	1	3	2	2		3	7		10	1					33
Uninspected	24	6	5	6	31	3	14		49	46		114	4		1		2	335

*Statistics concerning recreation and pleasure boating accidents are published in CG-357.

STATISTICAL SUMMARY OF DEATHS/INJURIES DUE TO A VESSEL CASUALTY*

1 July 1965 to 30 June 1966

Fiscal year 1966

	Nature of casualty																
	Collisions: crossing, meeting and overtaking	Collisions, while anchored, docking or undocking	Collision, fog	Collisions with piers and bridges	Collisions, all others	Explosion and/or fires—cargo	Explosion and/or fires—vessel's fuel	Explosion and/or fire—boilers, pressure vessel	Explosion and/or fire—structure, equipment, all others	Grounding with damage	Grounding without damage	Founderings, capsizings and floodings	Heavy weather damage	Cargo damage	Material failure—structure and equipment	Material failure—machinery and engineering equipment	Casualty not otherwise classified	Total
Number of casualties	18	4	3	1	10	9	6	2	20	2		30	5	1	8	2	3	124
Number deceased/injured—inspected vessels	16		1	7		10	1	2	8				2	1	8	2	4	62
Number deceased/injured—uninspected vessels	85	4	20		22	17	10		36	4		63	4		8		1	274
Number of persons deceased/injured	66/35	4/0	18/3	0/7	10/12	9/18	2/9	0/2	20/24	4/0	0/0	60/3	2/4	0/1	6/10	0/2	1/4	202/134
Primary cause																		
Personnel fault:																		
Pilots—State	2											1						3
Pilots—Federal			1		1													2
Licensed officer—documented seaman	6		1		1									1	1			10
Unlicensed—undocumented persons	2	1			1	1	3		1	1								10
All others	7	1	1		1	3	1		4			1			1		1	21
Error in judgement—calculated risk	1				2							1	1					5
Restricted maneuvering room		1																1
Storms—adverse weather										1		13	4					18
Unusual currents																		
Sheer, suction, bank cushion												1						1
Depth of water less than expected																		
Failure of equipment						1			6			1			4	2	1	15
Unseaworthy—lack of maintenance				1		2	2	2	7			8			2		1	25
Floating debris—submerged object					2				1									3
Inadequate tug assistance		1			2							4						7
Fault on part of other vessel or person																		
Unknown—insufficient information						2			1									3
Type of vessel involved																		
Inspected vessels:																		
Passenger and ferry—large				7									1					
Passenger and ferry—small	1								1								3	5
Freight	2							1							8	1	1	13
Cargo barge																		
Tankships	13		1			7		1	1					1		1		25
Tank barges						3	1											4
Public								6					1					7
Uninspected vessels:																		
Fishing	4				4		7		25	4		38	3		2			87
Tugs	20	1			11	1			5			14					1	53
Foreign	56	1	20			14			4									95
Miscellaneous	5	2			7	2	3		2			11	1		6			39
Particulars of person deceased/injured																		
Papers of deceased/injured:																		
Licensed by Coast Guard	8/2				0/3	1/3		0/1	2/5			2/0	0/1		1/1	0/2		14/18
Documented by Coast Guard	12/12	1/0	0/1		0/1	0/5		0/1	0/1			2/2	0/1	0/1	1/2			16/27
No license or document	7/6	2/0		0/7	10/8	7/8	2/9		14/18	4/0		56/1	2/2		4/7		1/4	109/70
Other—unknown—foreign	39/15	1/0	18/2			1/2			4/0									63/19
Status or capacity on vessel:																		
Passenger	2/0	1/0		0/3	0/1		0/2					2/0					0/2	5/8
Longshoreman—harbor worker		1/0				6/6			1/5						2/2		0/1	10/14
Crewmember	63/34	2/0	18/3	0/4	8/9	3/12	2/6	0/2	18/19	4/0		56/2	2/4	0/1	4/3	0/2	1/1	181/102
Other	1/1				2/2		0/1		1/0			2/1			0/5			6/10
Activity engaged in:																		
Off duty	1/10				0/2	1/2			5/9			3/2						10/25
Deck department duties	30/8	1/0	9/3	0/2	3/5	2/1	1/5		8/1	2/0		27/0	1/3		3/1		0/2	87/31
Engine department duties	18/5	1/0	7/0		2/1	0/3	0/1	0/2	2/7			10/0				0/1	1/0	41/20
Stewards department duties	12/8		2/0	0/2	0/1	0/2							1/3					15/13
Handling cargo		1/0				0/2								0/1	0/2			1/5
Fishing	2/2	1/0			3/0		1/0		0/2	2/0		13/0						22/4
Drills																		
Passenger	2/0			0/3	0/1		0/2										0/2	2/8
Other and unknown	1/2				2/2	6/8	0/1		5/5			7/1	0/1		3/7	0/1		24/28
Location of vessel:																		
At dock		1/0				4/11	1/3	0/2	6/9			2/0		0/1	0/2	0/1	0/1	14/30
At anchor		1/0				4/7	0/3		1/1			6/0	1/0		3/5			16/16
Underway	66/35	2/0	18/3	0/7	10/12	1/0	1/3		13/14	4/1		52/3	1/4		3/3	0/1	1/3	172/88
Part of body involved																		
Head and upper limbs	0/4			0/2	0/1	0/4	0/2		0/2				0/3		0/3		0/3	0/24
Back and lower limbs			0/1	0/3		0/1		0/1	0/3			0/1	0/1		0/5	0/1		0/17
Multiple injuries (internal and external)	1/31	1/0	0/2	0/2	0/11	0/13	0/7	0/1	4/19			0/2		0/1	2/2	0/1	0/1	8/93
Death—heart					1/0							1/0						2/0
Death—drowning	12/0	2/0	18/0		8/0	1/0	2/0		3/0	4/0		29/0	2/0					81/0
Death—disease, other	53/0	1/0			2/0	8/0			13/0			30/0			4/0		1/0	112/0

*Statistics concerning recreation and pleasure boating accidents are published in CG-357.

STATISTICAL SUMMARY OF DEATHS ON BOARD COMMERCIAL VESSELS*

(Not Involving a Vessel Casualty)

1 July 1965 to 30 June 1966

Fiscal year 1966

Cause of death

Totals	Cause of death	Natural cause	Homicide	Suicide	Disappearance	Slips and falls—ladders	Slips and falls—gangways	Slips and falls—on deck	Slips and falls—other	Falls from vessel—into water	Falls into holds or tanks	Struck by objects falling, dropped or moving	Exposure and asphyxiation	Struck against, crushed, bumped into objects	Operating machinery and tools	Burns and scalds (other than electrical)	Electrical shock and burns	Caught in lines, chains or wire ropes	Pinching and crushing	Heavy weather	Overexertion, sprains, and strains	Cuts, lacerations, bruises, and punctures	Altercations and misconduct	Unknown or insufficient information
392	Intoxication	204	5	8	----	3	4	----	13	106	12	15	2	4	----	4	----	3	7	----	----	----	----	
18	Physical deficiency or handicap	2	----	----	----	2	2	----	----	10	1	----	----	1	----	----	----	----	----	----	----	----	----	2
203	Unsafe movement or posture	201	----	----	----	----	----	----	1	1	----	----	----	----	----	----	----	----	----	----	----	----	----	
2	Psychological-immaturity, insanity	----	1	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	
33	Unsafe practice	----	1	8	----	----	----	----	----	24	----	----	----	----	----	----	----	----	----	----	----	----	----	
12	Violation of law or regulation	----	----	----	----	----	----	----	1	6	----	1	----	----	----	2	----	----	2	----	----	----	----	
72	Human errors	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
9	Decks—slippery or cluttered	1	3	----	----	1	1	----	6	44	8	2	----	1	----	----	----	1	3	----	----	----	----	1
5	Weather conditions	----	----	----	----	----	----	----	----	7	1	----	----	1	----	----	----	----	----	----	----	----	----	
1	Poor maintenance or housekeeping	----	----	----	----	----	----	----	----	4	----	----	----	1	----	----	----	----	----	----	----	----	----	
4	Inadequate lighting	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	
5	Inadequate rails or guards	----	----	----	----	----	----	----	1	3	----	----	----	----	----	----	----	----	----	----	----	----	----	
17	Failure of equipment	----	----	----	----	----	1	----	1	2	----	----	----	----	----	----	----	----	----	----	----	----	----	
9	Inadequate supervision	----	----	----	----	----	----	----	2	3	1	9	1	----	----	1	----	1	----	----	----	----	----	
	Inadequate life preservers	----	----	----	----	----	----	----	1	----	1	2	1	----	----	1	----	1	2	----	----	----	----	
	Inadequate tools or equipment	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
	Inadequate protective equipment	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
2	Improper use of tools or equipment	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	1
	Types of vessels involved																							
	Inspected vessels:																							
42	Passenger and ferry—large	30	----	4	----	----	1	----	----	7	----	----	----	----	----	----	----	----	----	----	----	----	----	
19	Passenger and ferry—small	10	----	1	----	----	----	----	----	8	----	----	----	----	----	----	----	----	----	----	----	----	----	
131	Freight ships and barges	90	3	2	----	1	----	----	5	12	5	5	2	2	----	2	----	----	1	----	----	----	----	
31	Tankships and barges	21	----	----	----	----	1	----	2	4	1	----	----	----	----	2	----	----	----	----	----	----	----	1
4	Public	4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
8	Miscellaneous	2	----	----	----	----	----	----	2	1	----	2	----	----	----	----	----	----	----	----	----	----	----	
	Uninspected vessels:																							
57	Fishing	18	2	----	----	----	----	----	----	34	1	----	----	----	----	----	----	2	----	----	----	----	----	1
39	Tugs	18	----	1	----	1	----	----	----	17	----	1	----	1	----	----	----	----	----	----	----	----	----	
20	Foreign	1	----	----	----	1	2	----	1	4	4	1	----	1	----	----	----	----	5	----	----	----	----	
41	Miscellaneous	10	----	----	----	----	----	----	3	19	1	6	----	----	----	----	----	1	1	----	----	----	----	
	Time of day																							
233	Daytime	127	2	4	----	1	3	----	8	57	8	8	1	2	----	3	----	2	6	----	----	----	----	
140	Nighttime	65	3	4	----	2	1	----	4	45	4	7	1	2	----	1	----	----	1	----	----	----	----	1
19	Twilight	12	----	----	----	----	----	----	1	4	----	----	----	----	----	----	----	1	----	----	----	----	----	
	Particulars of deceased																							1
	Papers of deceased:																							
40	Licensed by Coast Guard	35	----	----	----	----	----	----	----	2	----	----	1	1	----	1	----	----	----	----	----	----	----	
139	Documented by Coast Guard	105	1	3	----	----	2	----	4	20	2	2	----	----	----	----	----	----	----	----	----	----	----	
198	No license or document	61	4	5	----	2	----	----	9	80	9	13	1	2	----	3	----	3	4	----	----	----	----	
15	Other—unknown—foreign	3	----	----	----	1	2	----	----	4	1	----	----	1	----	----	----	----	3	----	----	----	----	2
	Status or capacity on vessel:																							
43	Passenger	27	----	5	----	----	----	----	----	11	----	----	----	----	----	----	----	----	----	----	----	----	----	
39	Longshoreman—Harbor worker	3	2	----	----	1	----	----	5	5	8	7	1	1	----	3	----	2	3	----	----	----	----	
282	Crewmember	170	2	3	----	2	4	----	5	78	4	5	1	3	----	1	----	2	2	----	----	----	----	
28	Other	4	1	----	----	----	----	----	3	12	----	3	----	----	----	----	----	1	2	----	----	----	----	
	Activity engaged in:																							
160	Off duty	122	1	2	----	1	3	----	4	30	4	5	1	1	----	2	----	1	1	----	----	----	----	
74	Deck department duties	23	----	----	----	1	1	----	----	32	----	----	----	1	----	----	----	----	----	----	----	----	----	
23	Engine department duties	17	----	----	----	----	----	----	----	2	----	----	----	----	----	----	----	----	----	----	----	----	----	
9	Stewards department duties	6	1	1	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	
23	Handling cargo	8	2	----	----	1	----	----	2	3	4	6	1	1	----	----	----	2	3	----	----	----	----	
23	Fishing	----	----	----	----	----	----	----	----	13	----	----	----	----	----	----	----	----	----	----	----	----	----	
	Drills	26	----	5	----	----	----	----	----	11	----	----	----	----	----	----	----	2	----	----	----	----	----	
42	Passenger	2	1	----	----	----	----	----	7	14	4	4	----	----	----	2	----	----	2	----	----	----	----	
38	Other and unknown	53	4	----	----	3	4	----	7	26	10	6	2	2	----	3	----	----	6	----	----	----	----	
	Location of vessel:	22	----	----	----	----	----	----	4	13	1	7	----	----	----	----	----	1	1	----	----	----	----	
126	At dock	129	1	8	----	----	----	----	2	67	1	2	----	2	----	1	----	2	----	----	----	----	----	2
51	At anchor																							
215	Underway																							
	Part of body involved																							
28	Head and upper limbs	----	----	----	----	2	----	----	6	1	7	6	----	4	----	----	----	----	2	----	----	----	----	
1	Back and lower limbs	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	
33	Multiple injuries (internal and external)	----	1	1	----	1	----	----	6	1	3	8	----	----	----	4	----	2	5	----	----	----	----	
182	Death—heart	182	----	----	----	----	----	----	----	103	----	----	----	----	----	----	----	----	----	----	----	----	----	1
115	Death—drowning	2	----	6	----	4	----	----	1	1	----	2	----	----	----	----	----	----	----	----	----	----	----	
33	Death—disease, other	20	4	1	----	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	1

*Statistics concerning recreation and pleasure boating accidents are published in CG-357.

STATISTICAL SUMMARY OF PERSONNEL INJURIES ON BOARD ALL COMMERCIAL VESSELS*

(Not Involving a Vessel Casualty)

1 July 1965 to 30 June 1966

Fiscal year 1966

Cause of injury

Totals	Cause of injury	Nature of injury: Slips and falls—ladders	Slips and falls—gangways	Slips and falls—on deck	Slips and falls—other	Falls from vessel—into water	Falls into holds or tanks	Struck by objects; falling, dropped or moving	Exposure and asphyxiation	Struck against, crushed, bumped into objects	Operating machinery and tools	Burns and scalds (other than electrical)	Electrical shock and burns	Caught in lines, chains or wire ropes	Pinching and crushing	Heavy weather	Overexertion, sprains and strains	Cuts, lacerations, bruises and punctures	Alterations and misconduct	Unknown or Insufficient information
1810		160	21	118	272	9	25	297	4	154	14	90	3	66	68	5	196	189	82	37
66	Intoxication	14	7	4	12	1	----	----	----	4	1	----	----	1	1	----	2	6	9	4
16	Physical deficiency or handicap	----	----	----	4	1	----	----	1	2	----	----	----	----	1	----	1	2	----	4
130	Unsafe movement or posture	----	----	2	8	1	1	1	----	3	----	----	----	----	----	----	112	1	----	1
3	Psychological-immaturity, insanity	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	----	2
97	Unsafe practice	18	----	----	24	2	1	11	3	5	3	9	1	8	1	----	----	11	----	----
	Violation of law or regulation	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
814	Human errors	89	14	17	116	3	10	132	----	81	6	45	2	37	37	----	55	80	73	17
165	Docks—slippery or cluttered	13	----	73	41	----	4	1	----	15	----	1	----	2	----	----	7	8	----	----
135	Weather conditions	7	----	11	25	1	----	18	----	28	----	----	----	1	18	5	7	13	----	1
49	Poor maintenance or housekeeping	12	----	8	11	----	----	1	----	2	1	----	----	1	1	----	5	4	----	3
30	Inadequate lighting	3	----	2	9	----	6	----	----	1	----	1	----	1	----	----	3	4	----	----
8	Inadequate rails or guards	1	----	----	3	----	2	----	----	----	----	1	----	----	----	----	----	1	----	----
94	Failure of equipment	2	----	----	11	----	1	53	----	4	----	16	----	2	1	----	----	4	----	----
111	Inadequate supervision	1	----	----	5	----	----	60	----	5	----	7	----	11	5	----	3	13	----	1
	Inadequate life preservers	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1	Inadequate tools or equipment	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----
32	Inadequate protective equipment	----	----	1	----	----	----	6	----	1	----	6	----	----	----	----	----	15	----	3
59	Improper use of tools or equipment	----	----	----	3	----	----	14	----	3	3	3	----	2	3	----	1	26	----	1
	Types of vessels involved																			
	Inspected vessels:																			
230	Passenger and ferry—large	17	1	31	40	1	----	42	----	22	----	10	----	1	7	----	24	19	7	8
17	Passenger and ferry—small	2	----	1	6	1	----	1	----	2	----	----	----	----	----	----	3	1	----	----
1233	Freight ships and barges	116	15	74	189	5	19	181	2	105	12	64	3	37	51	1	142	132	60	25
135	Tankships and barges	14	4	7	23	----	----	21	----	13	----	8	----	3	2	1	15	12	11	1
36	Public	6	----	1	----	----	----	4	----	4	1	3	----	2	----	----	5	4	4	2
45	Miscellaneous	2	----	----	7	----	1	11	----	4	----	1	----	2	3	----	5	9	----	----
	Uninspected vessels:																			
53	Fishing	2	----	2	1	1	2	16	----	2	----	1	----	15	----	3	----	7	----	1
42	Tugs	1	1	1	4	1	3	13	----	2	----	2	----	6	5	----	1	2	----	----
5	Foreign	----	----	----	----	----	----	2	2	----	----	1	----	----	----	----	----	----	----	----
14	Miscellaneous	----	----	1	2	----	----	6	----	----	1	----	----	----	----	----	1	3	----	----
	Time of day																			
1282	Daytime	110	5	79	170	7	14	232	4	113	11	66	2	14	53	3	161	142	39	27
456	Nighttime	43	16	34	87	2	10	56	----	34	2	18	1	19	11	2	29	45	37	10
72	Twilight	7	----	5	15	----	1	9	----	7	1	6	----	3	4	----	6	2	6	----
	Particulars of person injured																			
	Papers of person injured:																			
173	Licensed by Coast Guard	16	2	6	27	2	7	23	----	6	4	30	2	5	2	1	17	20	1	2
1473	Documented by Coast Guard	138	19	106	225	5	11	229	1	138	9	55	1	40	62	1	169	149	81	34
158	No license or document	6	----	6	20	2	6	42	1	10	1	5	----	21	4	3	10	20	----	1
6	Other—unknown—foreign	----	----	----	----	----	1	3	2	----	----	----	----	----	----	----	----	----	----	----
	Status or capacity on vessel:																			
18	Passenger	2	----	3	5	1	----	----	----	4	----	----	----	----	----	----	3	----	----	----
11	Longshoreman—Harbor worker	----	----	----	2	----	----	5	1	----	1	1	----	1	----	----	----	----	----	----
1738	Crewmember	158	21	115	260	8	23	280	3	147	13	88	3	63	66	5	188	178	82	37
43	Other	----	----	----	5	----	2	12	----	3	----	1	----	2	2	----	5	11	----	----
	Activity engaged in:																			
331	Off Duty	46	18	14	68	5	1	17	----	29	----	3	----	3	10	----	19	35	55	8
687	Deck department duties	52	3	52	102	2	17	171	1	58	6	9	----	39	19	4	85	64	5	8
419	Engine department duties	32	----	14	52	----	4	58	1	35	7	61	3	10	16	1	49	60	6	10
251	Stewards department duties	27	----	31	35	----	1	18	1	22	----	15	----	----	21	----	30	23	16	11
14	Handling cargo	----	----	1	2	----	----	6	1	----	----	1	----	----	----	----	1	2	----	----
34	Fishing	----	----	2	1	1	----	11	----	1	----	----	----	14	----	----	----	4	----	----
13	Drills	1	----	1	----	----	----	4	----	2	----	----	----	----	----	----	3	2	----	----
17	Passenger	2	----	3	4	1	----	----	----	4	----	----	----	----	----	----	3	----	----	----
44	Other and unknown	----	----	----	8	----	2	12	----	3	1	1	----	----	2	----	6	9	----	----
	Location of vessel:																			
629	At dock	61	20	31	90	6	13	107	3	43	4	38	----	22	18	----	60	55	43	15
218	At anchor	9	1	7	34	2	4	36	----	17	2	14	----	9	8	----	27	35	9	4
963	Underway	90	----	80	148	1	8	158	1	94	8	38	3	35	42	5	109	99	30	18

See footnote at end of table.

STATISTICAL SUMMARY OF PERSONNEL INJURIES ON BOARD ALL COMMERCIAL VESSELS*—Continued

(Not Involving a Vessel Casualty)

1 July 1965 to 30 June 1966
Fiscal year 1966

Total injuries		Nature of injury																		
		Slips and falls—ladders	Slips and falls—gangways	Slips and falls—on deck	Slips and falls—other	Falls from vessel—into water	Falls into holds or tanks	Struck by objects; falling, dropped or moving	Exposure and asphyxiation	Struck against, crushed, bumped into objects	Operating machinery and tools	Burns and scalds (other than electrical)	Electrical shock and burns	Caught in lines, chains or wire ropes	Pinching and crushing	Heavy weather	Overexertion, sprains and strains	Cuts, lacerations, bruises and punctures	Alterations and misconduct	Unknown or insufficient information
	Part of body injured:																			
133	Head and neck	15	3	5	23		2	28		17		1					2	13	20	4
100	Eye and face	2	1	2	4			18		7		13				2		25	21	5
156	Arm and shoulder	24	1	18	33	2	1	20		15	2	9	1	10			6	11	2	1
381	Hand	17	1	18	32			45		27	10	13	1	36	56		11	94	9	11
242	Leg and hip	20	5	17	48		2	72		28		7		7	3	1	14	12	2	4
288	Feet	25	6	11	33		4	73		21	1	18		9	7		46	25	3	6
250	Back	29		34	49	2	3	9		18		1		2			95	3	4	1
88	Body—external	7	1	3	15		2	11		2		27	1	1		2		6	10	
125	Body—internal	19	2	8	31	2	8	17		18	1			1	2		5		9	2
22	Hernia			1	1			1		1							17			1
10	Multiple body injuries	2		1	2		3					1							1	2
15	All other injuries		1		1	3		3	4										1	2
	Additional contributing factors to cause of injury																			
476	Human element	33	3	27	60	4	5	44		33	2	14		18	15	1	66	47	100	4
22	Decks—slippery or cluttered	3		10	6					1				1				1		
42	Weather conditions	5		10	4			7		1		3		2	4			4		2
11	Poor maintenance or housekeeping	1		4				2		1				1				2		
7	Inadequate lighting	1			4			1		1										
3	Inadequate rails or guards						1													
3	Failure of equipment							2				1						2		
24	Inadequate supervision							12		1		2		4	2		3			
5	Inadequate tools or equipment				3			2												
10	Improper use of tools or equipment							3		1	1	1					1	3		
214	Hull structure	11	4	73	63		2	5	1	18				3	1	1	17	14		2
134	Holds, hatches, tanks	2		6	43		25	21	1	11	1	3			2		14	4		1
236	Ladders, gangways, stairs	153	20		9	4		8		10		2		3	2		13	9	1	2
149	Masts, booms, cargo gear	6	1	5	19			54		10	3			11	3		25	9	1	2
103	Watertight closures	1		4	11			17		12					42	4	3	8	1	
191	Living spaces	12		17	63			9		24		4			13		15	18	13	3
37	Fishing equipment			2				14		1				15			4	5		
22	Navigational equipment	4		4	3			1		3				1			4	2		
31	Lifesaving equipment				9	1		5		7				1			5	3		
2	Firefighting equipment			1				1												
1	Communications equipment									1										
1	Yard repairs				1		2	16	2	4		1	1				12	6		2
63	Improper loading, stowage and ventilation	1		3	13			5		1				7	1		2	3		
13	Ground tackle							16		1					2					
25	Tugs and towing equipment							58		5		1		19	1		6			1
97	Mooring equipment			3	3			42	1	18	3	9		4	5		30	42		1
193	Miscellaneous deck department equipment	4	1	6	27			1						1	2			2		
6	Main propulsion machinery							12		5		39			3		5	5		2
77	Boiler parts and accessories	1			5			53		26	10	35	2	8	5		41	48	3	7
302	Auxiliary machinery	20		6	38			2		3		1	2	1			1	6		
17	Electrical equipment				1			16	1	12		18			8		23	21		11
147	Galley equipment	2		16	19															

*Statistics concerning recreation and pleasure boating accidents are published in CG-357.

AMENDMENTS TO REGULATIONS

TITLE 46 CHANGES

DECK ENGINE MECHANICS AND ENGINEMAN RATINGS

The ratings of "deck engine mechanic" and "engineman" have been established and endorsements with respect thereto may be placed on merchant mariner's documents to authorize the holders to serve in such capacities as qualified members of the engine department.

Proposals published on September 9, 1964, designated as 46 CFR, Part 155 and entitled "temporary requirements for automated or partially automated steam-propelled cargo or tank vessels" (29 F.R. 12732–12734) have been withdrawn. The certificates of inspection for those vessels which show the manning to include the ratings of deck engine mechanic and engineman will continue in effect until such certificates expire. However, in the future, the ratings of deck engine mechanic and engineman will not be required by certificates of inspection issued by the Coast Guard. If the owner, operator, agent, or master of an automated or partially automated vessel requests that the manning of the vessel include a deck engine mechanic or engineman, the certificate of inspection will carry the requirement as "oilers" and a notation in the body of the certificate that "junior engineers, deck engine mechanics, or enginemen may be substituted for one or more oilers."

The proposals considered at the public hearing held March 22, 1965, were commented on extensively and the Merchant Marine Council recommended that the problem be reconsidered. The Coast Guard conducted in-person observation of automated vessels over an extended period of time and has consulted with the affected labor unions, management, and operators of automated vessels. The proposals, as revised, are approved and set forth in the Federal Register of October 22, 1966. The actions of the Merchant Marine Council with respect to comments received regarding these proposals are approved. As reflected by the regulations in this document, these actions are:

a. The ratings of "deck engine mechanic" and "engineman" are established. For seamen who meet the qualifications for such ratings their merchant mariner's documents may be appropriately endorsed except when holding the rating "QMED—any rating," or "any unlicensed rating in the engine department," which include these new ratings. No merchant mariner's document will be issued with the rating of "deck engine mechanic" or "engineman" alone, but such a document will also show the other ratings held. Such seaman may sign on a vessel in any category which is authorized by his document.

b. The ratings of "deck engine mechanic" and "engineman" as such will not be required by any certificate of inspection issued by the Coast Guard after November 30, 1966. The minimum manning requirements will be prescribed by the Officer in Charge, Marine Inspection, in accordance with 46 CFR 157.15–1 in subchapter P (Manning) of this chapter. The minimum requirements for the engineroom will include the number of oilers needed and a notation that junior engineers, deck engine mechanics or enginemen may be substituted for one or more oilers.

c. Seamen who hold temporary letters issued by Officers in Charge, Marine Inspection, certifying to their qualifications as "deck engine mechanic" or "engineman" may continue to "sign on" under such letters until December 1, 1966.

d. The regulations for the new ratings of "deck engine mechanic" and "engineman" are added to the requirements in 46 CFR Subpart 12.15 governing qualified members of the engine department. These amendments affect 46 CFR 12.15–7, 12.15–9, 12.15–11, 12.15–13, and 12.15–15. They are to be found in the Federal Register of October 22, 1966.

STORES AND SUPPLIES

Articles of ships' stores and supplies certificated from October 1, to October 31, 1966, inclusive, for use on board vessels in accordance with the provisions of part 147 of the regulations governing "Explosives or Other Dangerous Articles on Board Vessels" are as follows:

CERTIFIED

Chemical Systems Inc., 7310 South Chicago Ave., Chicago, Ill. 60619: Certificate No. 697, dated October 24, 1966, ELECTRO-KLEEN; Certificate No. 698, dated October 24, 1966, FORMULA 903;

Montgomery Chemical Co., Jenkintown, Pa. 19046: Certificate No. 700, dated October 26, 1966, AQUANEX 410; and Certificate No. 701, dated October 26, 1966, AQUANEX 512;

E. M. Howey & Co., 666 Tatum St., Woodbury, N.J. 08096: Certificate No. 702, dated October 26, 1966, Aqua De.

AFFIDAVITS

The following affidavits were accepted during the period from September 15, 1966, to October 15, 1966:

Dragon Valves, Inc., 13457 Excelsior Dr., Norwalk, Calif. 90650, VALVES.[1]

Roi Tech Valve Co., Inc., 65 Walnut St., Peabody, Mass. 01960, VALVES.

Mesco Heat Exchangers, Division of Marine Engine Specialties Corp., 590 Belleville Turnpike, Kearny, N.J. 07032, FITTINGS.[2]

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[1] Model 10F05 only.
[2] Boiler water sample cooler type 14–1 only.

Casualties

(*Continued from page 245*)

dition. Minor repairs, alterations, and replacements may be permitted to the same standards as the original installation.

The following is a listing of the number of casualties involving failures to lifeboat launching apparatus and associated equipment which were reported to and investigated by the Coast Guard during fiscal years 1962–65.

Fiscal Year 1962

4 Failures of wire falls
1 Failure of fairlead block securing bolts
1 Failure of davit arm
1 Failure of releasing gear
1 Failure of lifeboat fall block

Fiscal Year 1963

2 Failures of wire falls
1 Failure of pillow block on davit
1 Failure of wire rope socket assembly
1 Failure of davit trunnion pin

Fiscal Year 1964

3 Failures of wire falls
1 Failure of davit chain
1 Failure of sheath screw assembly

Fiscal Year 1965

4 Failures of wire falls
2 Failures of limit switches
1 Failure of tricing pendants

MAINTAIN AND INSPECT LIFEBOATS AND ASSOCIATED EQUIPMENT OFTEN—THEY MAY BE YOUR LAST RESORT

MERCHANT MARINE SAFETY PUBLICATIONS

The following publications of marine safety rules and regulations may be obtained from the nearest marine inspection office of the U.S. Coast Guard. Because changes to the rules and regulations are made from time to time, these publications, between revisions, must be kept current by the individual consulting the latest applicable Federal Register. (Official changes to all Federal rules and regulations are published in the Federal Register, printed daily except Sunday, Monday, and days following holidays.) The date of each Coast Guard publication in the table below is indicated in parentheses following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

The Federal Register may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Subscription rate is $1.50 per month or $15 per year, payable in advance. Individual copies may be purchased so long as they are available. The charge for individual copies of the Federal Register varies in proportion to the size of the issue but will be 15 cents unless otherwise noted in the table of changes below. Regulations for Dangerous Cargoes, 46 CFR 146 and 147 (Subchapter N), dated January 1, 1966 and Supplement dated July 1, 1966 are now available from the Superintendent of Documents, price basic book: $2.50; supplement: 60 cents.

CG No.	TITLE OF PUBLICATION	No. Copies
101	Specimen Examination for Merchant Marine Deck Officers (7–1–63).	1
108	Rules and Regulations for Military Explosives and Hazardous Munitions (8–1–62).	2 copies
115	Marine Engineering Regulations and Material Specifications (3–1–66).	2
123	Rules and Regulations for Tank Vessels (5–2–66).	1
129	Proceedings of the Merchant Marine Council (Monthly).	
169	Rules of the Road—International—Inland (9–1–65). F.R. 12–8–65, 12–22–65, 2–5–66, 3–15–66, 7–30–66, 8–2–66, 9–7–66, 10–22–66.	3 copies
172	Rules of the Road—Great Lakes (6–1–62). F.R. 8–31–62, 5–11–63, 5–23–63, 5–29–63, 10–2–63, 10–15–63, 11–5–64, 5–8–65, 7–3–65, 12–22–65, 7–30–66, 8–2–66.	
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (3–2–64).	1
175	Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3–1–65).	4
176	Load Line Regulations (1–3–66).	2
182	Specimen Examinations for Merchant Marine Engineer Licenses (7–1–63).	1
184	Rules of the Road—Western Rivers (6–1–62). F.R. 1–18–63, 5–23–63, 5–29–63, 9–25–63, 10–2–63, 10–15–63, 4–30–64, 11–5–64, 5–8–65, 7–3–65, 12–8–65, 12–22–65, 2–5–66, 3–15–66, 7–30–66, 8–2–66, 9–7–66.	
190	Equipment lists (8–3–64). F.R. 10–21–64, 10–27–64, 3–2–65, 3–26–65, 4–21–65, 5–26–65, 7–10–65, 8–4–65, 10–22–65, 10–27–65, 1–27–66, 2–2–66, 2–5–66, 2–10–66, 3–15–66, 3–24–66, 4–15–66. 9–8–66.	2
191	Rules and Regulations for Licensing and Certificating of Merchant Marine Personnel (2–1–65). F.R. 2–13–65, 8–21–65, 3–17–66, 10–22–66.	2 copies
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (10–1–63). F.R. 11–5–64, 5–18–65.	2
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels (4–1–57).	
227	Laws Governing Marine Inspection (3–1–65).	2
239	Security of Vessels and Waterfront Facilities (7–1–64). F.R. 6–3–65, 7–10–65, 10–9–65, 10–13–65, 3–22–66, 7–30–66, 8–2–66.	2
249	Merchant Marine Council Public Hearing Agenda (Annually).	
256	Rules and Regulations for Passenger Vessels (5–2–66).	2
257	Rules and Regulations for Cargo and Miscellaneous Vessels (1–3–66). F.R. 4–16–66.	2 copies
258	Rules and Regulations for Uninspected Vessels (1–2–64). F.R. 6–5–64, 6–6–64, 9–1–64, 5–12–65, 8–18–65, 9–8–65.	
259	Electrical Engineering Regulations (7–1–64). F.R. 2–13–65, 9–8–65.	1 Copy
266	Rules and Regulations for Bulk Grain Cargoes (7–1–64). F.R. 3–10–66.	
268	Rules and Regulations for Manning of Vessels (2–1–63). F.R. 2–13–65, 8–21–65.	1
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935 (11–19–52). F.R. 12–5–53, 12–28–55, 6–20–59, 3–17–60, 9–8–65.	
293	Miscellaneous Electrical Equipment List (4–1–66).	
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (10–1–59). F.R. 10–25–60, 11–3–61, 4–10–62, 4–24–63, 10–27–64, 8–9–66.	
323	Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (1–3–66).	
329	Fire Fighting Manual for Tank Vessels (4–1–58).	

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The following have been modified by Federal Registers: CG–169 and CG–191, Federal Register, October 22, 1966.

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