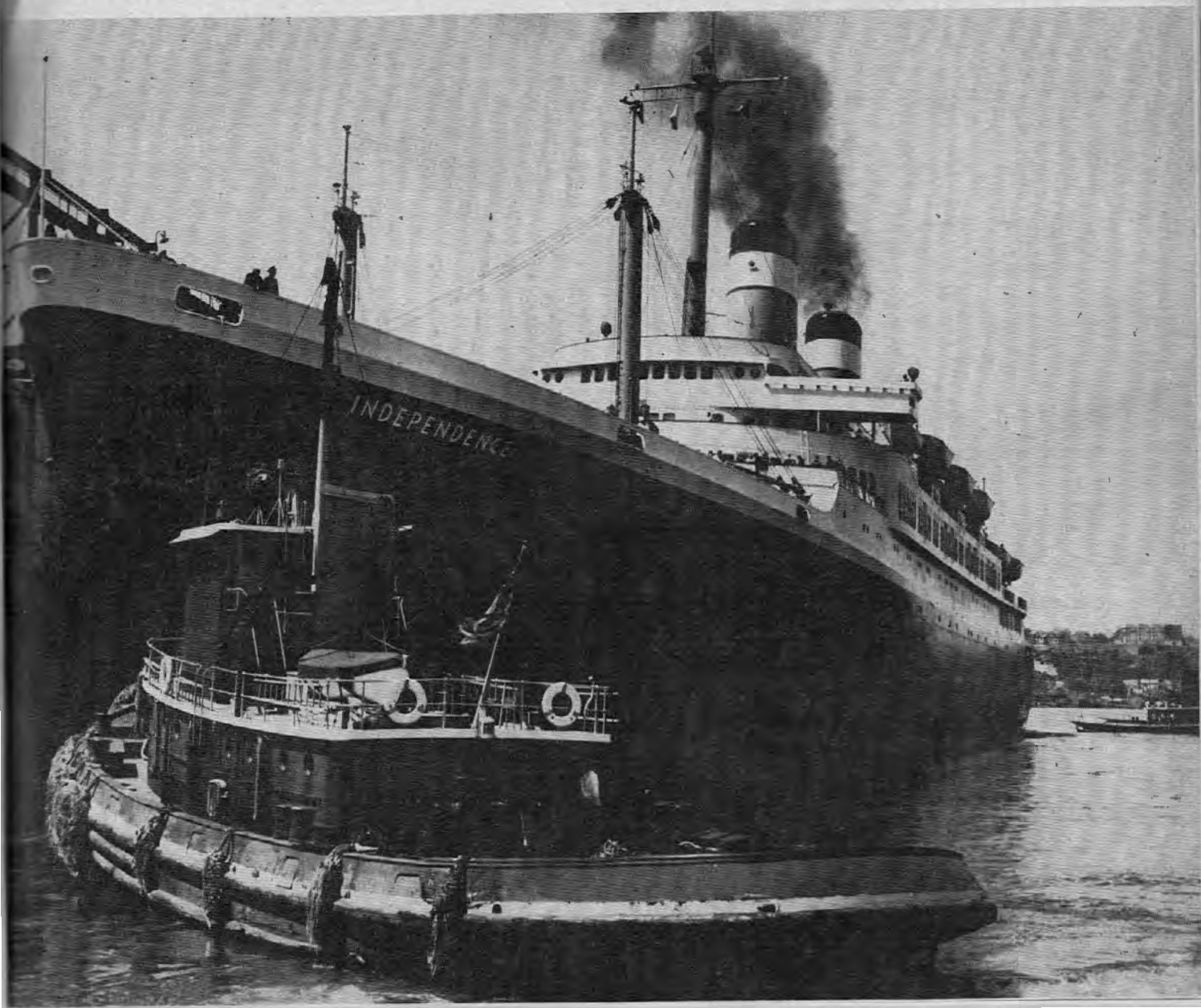
PROCEEDINGS OF THE
MERCHANT MARINE COUNCIL

The printing of this publication has been approved by the Director of the Bureau of the Budget, January 14, 1955.

UNITED STATES COAST GUARD

CG 129

Vol. 13 June 1956 No. 6



Proceedings of the

MERCHANT MARINE COUNCIL

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

The Merchant Marine Council of the United States Coast Guard

CONTENTS

DISTRIBUTION (SDL 62)

A: a aa b c d (2); remainder (1)
B: e (35); c (16); f (4); h (3); g (2); remainder (1)
C: a b (less Quonset Pt.) c d e f g i m o w (1)
D: i (5); a b c d e f g h j k m (1)
E: o (New London only) (1)
List 141M
List 111

"The development of nuclear powered vessels will inevitably generate radical changes in shipbuilding, in construction techniques, and in machinery plant design. The shipbuilder is faced with an entirely new order of structural and arrangement problems because in a nuclear powered ship the reactor must be completely integrated with the hull, just as the engine and the frame of a fighting plane must be designed together."

—Rear Admiral H. G. Rickover, U. S. N.

"We are concerned at the Maritime Administration that so few of the newly constructed, bulk-carriage vessels are under the American flag. While we do not gainsay the lower cost of foreign flag carriage of vital cargoes, we can and do question the wisdom of not having a larger portion carried in U. S. ships, manned by U. S. citizen crews on whom we can most certainly depend in time of ideological war.

"We hope to arrive at a means of assuring greater American flag participation in these movements, and possibly the force of public opinion will be the major vehicle for such a solution. Certainly, the savings in transportation cost, when measured against the percentage of final product cost, would appear to be small indeed."

—Rear Admiral Walter C. Ford
Deputy Administrator
Maritime Administration

TOWING CASUALTIES

One extremely important part of the marine industry of the United States which is too often overlooked or slighted, is the towing business. Railroad tugs chugging busily across our major harbors; the huge steam and diesel tugs ponderously creeping up the inland rivers pushing blocks-long tows; the swarms of seemingly tiny tugs nursing huge ocean liners into their berths—these sights have become so commonplace that the casual observer hardly notices them. It is only when we are abruptly deprived of their services for reasons such as a temporary shortage of tugs, ice, or work stoppages that we suddenly become acutely aware of the indispensable nature of their work. Take New York harbor as an example, just imagine the impact of one single day in which not a single tug turned a wheel. Not one gallon of fuel oil, not one crate of fresh produce, not one ton of coal, not one brick or bag of cement or ton of sand delivered by towing power to the Island of Manhattan. Multiply this effect by a period of days, or by a number of large ports and the importance of our national towing industry becomes vividly clear. Towboats are a vital link in the national economy.

Towing is not just profit and routine—not by a long shot. Tugs are as susceptible to trouble as are the "big" ships, and in some ways more so. Casualty records show that tugs have collisions, fires and explosions. Tugmen are injured or killed, or fall overboard and drown in about the same proportions as on other types of vessels. However, from here on the similarity ends, for there is one big difference—the tug is tied down. It cannot maneuver freely to escape damage; it cannot quickly release itself from the tow, when sudden danger looms; it cannot give the other fellow "a wide berth"—the other fellow is, more often than not, alongside or at the other end of a wire hawser.

Most harbor tugs have a low freeboard. This is due to the necessity of installing a powerful (heavy) propelling plant in a small, highly maneuverable hull and yet have a minimum of structure above deck in order to facilitate passage under bridges and not to interfere with towlines. Low freeboard creates an inherent hazard of flooding if there is a severe list. Strong forces tending to heel a tug and place her "in irons" are exerted from the tow when the towlines lead abeam. As a result of these two potential hazards, low freeboard and sudden heeling, there is no place for daydreaming or complacency on board a tug. Things can happen, and happen fast!

UNPREDICTABLE FORCES

Any good seaman can predict fairly accurately the result of normal forces acting on his own vessel, that is, from his own engine, from wind, and from current. For the tugman, there is in addition a huge unknown quantity—the force exerted on him through the towlines. This force sometimes has a way of becoming extremely ornery, often to the point of taking charge, even with the best of tug pilots in command.

When the tow is non-self propelled, the forces it sets up can be dangerous, but at least they are predictable. But when the tow is a vessel with its own power available, and the master of the tow chooses to ring up an engine movement, with or without the knowledge or concurrence of the tugman, strange and powerful forces may suddenly appear. The tugman, unless he is exceptionally alert and gifted with foresight, may find himself being swept sideways, jammed into the wrong end of a slip with no escape, or heeling dangerously, perhaps with water pouring over the rail. Needless to state, teamwork between tug and ship is an absolute requisite!

For most landsmen, a difficult concept to grasp is the immense momentum possessed by moving ships and the tremendous exertion of power necessary to overcome this momentum and bring them to a stop. The huge difference between exerting this power through propellers to a fluid medium, and exerting the power necessary to stop a moving truck through brakes and tires to a solid roadbed probably would not even occur to the landsman.

There is one man who understands this problem better than any other, the harbor towboat captain. Not only is he in there ahead, astern, or alongside the tow sweating and straining, day in and day out, to get the big fellow safely stopped; he is also in there, every time, right where the pinch will really hurt if the big fellow gets out of control—where the side or end of the steel behemoth, if it crashes into the dock, may crash into him first.

With the tow alongside where the backing power of the tug may be applied directly through bow, stern, or breast lines, stopping the big ship safely is one problem—with its complications and pitfalls. However, to stop the tow on the far end of a stern hawser is quite another problem. Here is where the real science of the tug pilot must be utilized, where every possible use must be made of current, wind, and a gradual slowdown. As in other phases of seafaring, the principal requirements is foresightedness and good judgment. More than one tug has gotten into real trouble when the necessary ingredient of foresightedness was lacking. Tugs have been sunk and crew members drowned when the tow rammed or overrode the towing vessel. These disasters happen fast, usually in a matter of minutes, or even seconds.

IMPORTANCE OF COMMUNICATIONS

Another problem which can often lead to grief is poor communication between tug and tow. In busy harbors where whistle signals between tug and ship or between tug and tug are practically uniform, the problem is not too serious. Functioning as a team, towboat pilots and a docking pilot from the same towing company aboard the ship, or an experienced master or pilot serving on the ship, are usually quite used to working with one another with a standard set of signals. Oftentimes one can anticipate the movements or signals of the other before they are made and the whole maneuver is smooth and trouble-free. However, in many other towing situations, communications are not nearly as mechanical or smooth, and their lack can well be an important contributing cause of a casualty. Such cases might involve smaller ships being handled by independent towboats not familiar with the vessels or the personnel navigating them; long stern hawser tows of manned barges or vessels with poor or non-existent radio facilities; large multiple tows on the rivers where a man on the bow of the lead barge may be as much as 1,000 feet from the pushing towboat; harbor towing in certain areas where the master of the ship acting as his own docking pilot is unfamiliar with the local code of tug whistle signals.

UNINSPECTED TUGS

In addition to the dangers inherent in tug operations, there is another problem of serious proportions. It has risen in recent decades with the increased use of diesel marine propulsion—the poor over-all condition of many motor towing vessels. In the 19th century, when many of our vessel inspection laws were enacted, practically all vessels were steam pro-

385536—56——2

pelled. Accordingly, the words "steam propelled" were written into each statute. For many years, practically all tugs were subject to Federal inspection of hull, machinery, firefighting and lifesaving equipment, and to Federal manning requirements for licensed and unlicensed personnel. With the appearance and development of internal combustion engines in the marine towing field, the situation changed; and, Congress has not passed any laws which would extend inspection requirements to motor towing vessels.

By the Act of June 20, 1936, inspection laws were extended to include *seagoing* motor vessels, but only those of over 300 gross tons. Subsequent attempts to legislate Federal inspection and manning requirements for motor towing vessels have resulted in not one new law. Consequently, of the many thousands of motor towboats in the United States, the only ones subject in any way to Federal inspection are those of 300 gross tons and over which are classed as *seagoing*. There is one exception to the foregoing which came about indirectly. Under the Act of July 17, 1939, which implemented the Officers' Competency Certificates Convention of 1936, Masters, Chief Engineers, and other officers on *seagoing* motor towboats of 200 gross tons and over are required to be licensed.

Consequently, and naturally enough, this has resulted in the operation of thousands of nondescript motor towboats with poor maintenance, inferior strength of hull, poor watertight integrity and stability, ineffective fire-fighting and lifesaving gear, dangerous conditions of machinery and inflammable fuel systems. Of even greater significance from the standpoint of marine safety, these craft are often manned by inexperienced deck and engine personnel. It seems needless to point out that the existence of these conditions is a primary reason for the many casualties which occur, year in and year out, on motor towboats. It would also seem academic to point out that most of these conditions could be avoided by rigorous annual Federal inspection and certificating requirements for personnel.

Unfortunately the attainment of enabling legislation to carry out such a program does not seem likely for the immediate future. Therefore, the burden of responsibility for improving the unsafe conditions of so many motor towboats and for improving the caliber of the men who operate them must remain on the shoulders of the owners and operators of such vessels.

LICENSED OFFICERS

It would be manifestly unfair and untrue to leave the impression that the above deplorable conditions exist on *all* motor towing vessels. Nothing could be further from the truth. In many of the larger, more reputable towing companies, motor towboats (principally diesel) are maintained in excellent condition and no doubt prove to be just as safe as inspected steam tugs. There are hundreds of diesel tugs operating under United States ownership which are models of seaworthiness, safety, efficiency, and cleanliness, and which are manned by highly competent personnel, many of whom hold Merchant Marine licenses of the type and grade which would be required if the law required licensed officers.

Some companies require their deck and engineering officers to hold appropriate licenses as a condition of their employment. There are a few companies which pay their men bonuses for obtaining such licenses. In at least one area, companies operating motor towboats maintain a school of professional instruction for the Masters, Mates, Pilots, and other operating personnel. It is usually companies of this caliber which also maintain their motor towboats in excellent condition, in some cases to higher standards than would be required by Federal laws and regulations.

The motivation which prompts an operator to take advantage of the lack of inspection laws and run his boat in an unseaworthy condition is difficult to understand. If it is to save money by avoiding the expense of keeping his tug in first class condition, it is short-sighted reasoning. Almost any successful company will agree that, by and large, the safest way is, in the long run, the cheapest and most efficient way.

It would seem indisputable that the woes of long litigation arising out of casualties; the expensive delays of disabled equipment with accompanying nonperformance of contract obligations; the disheartenment and difficulty of replacing injured or disabled employees; and the general lack of confidence of customers due to equipment failures and personnel casualties will eventually outweigh any short-sighted financial gains achieved by operating rundown tugs.

If the reason for operating inferior motor towboats is ignorance or complacency, many of the same factors as outlined above would seem to be ample cause for correcting this ignorance or "just don't care" attitude.

MECHANICS NOT SEAMEN

It is also recognized that the crews of many motor towboats employed on specialized work, such as on salvage, marine construction, or geological surveying, are not "seamen," in the true sense of the word, but could more accurately be called "mechanics." By this it is meant that these men are more concerned with moving floating working equipment in a limited area than with navigating their vessels safely on a long voyage. Such preoccupation with the job at hand and disregard of other hazards of water transport with which seagoing seamen must live can be understood and explained.

Unfortunately, many of the hazards faced by the seagoing men are also present (and just as dangerous) in

Figure 1. Small tug being brought to the surface after capsizing and sinking.

the operations of these specialized towboats. Men who are killed in fires or explosions, when a nondescript motor craft sinks (*see Figure 1*), are just as dead as those killed or drowned on any other vessel. In addition, Coast Guard casualty records indicate that the death rate on this type of towboat is much higher, proportionately, than on the established towing routes. What better proof is necessary to point out to the operators of these miscellaneous limited-purpose tugs that they should keep them as safe, and manned with as well-qualified personnel as the towboats on established routes? A safety record speaks for itself.

Another problem involving small motor towboat operation, which seems to be on the increase and which has resulted in far too many serious casualties, is the towing of large cumbersome tows with tugs vastly underpowered for the requirements of the job. As an example, take the case of, say, a 40-foot tug powered with a 300 hp diesel engine attempting to handle a tow of 3 or 4 large scows, with adverse wind or current conditions. These operations are a "touch and go" matter under the best of conditions. When wind or current becomes contrary, far too often the result is—a sunken tug, perhaps a job for the local coroner. By what law, by what standard, can the operators who undertake these hazardous jobs be judged, or condemned?

SAFETY NOT LITIGATION

Criminal proceedings under statutes dealing with negligence on vessels are difficult of proof, especially as regards corporate owners. The remedy of recovery by the aggrieved or bereaved through civil litigation is usually protracted, and discouraging. Quite often the outcome is non-conclusive as to the true issue—marine safety. The Coast Guard feels that processes of civil litigation are certainly not the best path toward the goal of higher standards of marine safety. In most cases of monetary recovery, nothing at all will have been accomplished toward the end of greater safety afloat.

In view of the ineffectiveness of civil court processes in improving marine safety and the present lack of statutory authority to enforce marine safety on the unsafe, unseaworthy motor towing vessels, the only possible remedy at this time lies in the efforts of operating management and operating personnel. Since these efforts have been so successful on the hundreds of safe, efficient, well-run motor tugs which are the pride of the towing industry, it is to be hoped that their example will finally prevail in the entire towing field and that safety, which is now apparently almost a last consideration on thousands of assorted motor towboats, will be hoisted by the boot straps to a position of leading consideration.

For many years, Coast Guard casualty records have contained a steady stream of towboat accidents, many (far too many) involving loss of life. Summaries of the principal factors in some of the representative casualties involving towboats of the last three years are presented here.

TOW TAKES CHARGE

One of the most tragic cases occurred about three years ago in a Southern river. A small diesel towboat, 58 feet in length and powered by a 300 hp. engine, with nine crew members on board, was towing three large empty tank barges. The three barges were made up as a semirigid, end to end, unit. The lead barge was secured to the tug by a bridle consisting of two 32-foot lengths of 1-inch wire made fast to an 8-inch manila hawser. The point of the bridle was 12 feet aft of the tug. The over-all length of tug and tow was approximately 583 feet.

As the tug neared the junction of two rivers, the *unlicensed* Master apparently felt some doubt about the safety of his tug. He ordered two deckhands to stand by the towing bits to slack off or cut the towline if necessary with a fire ax if they heard the two-blast emergency signal. A few moments later, the Master began to round his tow up to the left in order to head upstream and land his barges. It was about 2:30 in the morning. As the tow rounded up to a point where the barges were within 10 degrees of being parallel to the bank, the lead barge headed slightly towards the bank, tending to yaw the bow of the tug. At this time, the bow of the lightly-powered tug, influenced by the river current and the lack of steering effect due to the heavy tow, fell off rapidly to the left. The tug continued around until her port quarter was against the port side of the lead barge, the tug heeling sharply to starboard.

The swing of the tug was so rapid that the Master barely had time to blow the two-blast signal and then escape through a wheelhouse window on the port side as the tug heeled over to starboard. Some of the crew were alerted by the whistle blasts in time to save themselves. The tug sank in a matter of seconds. One man had to find his way out the door under water and struggle to the surface.

Another tug was near enough to hear the cry for help. Three of the crew, including the Captain were picked up. The other six perished.

There were sufficient life preservers on board but none were used due to the rapid capsizing. There was no alarm system installed in the living or working spaces to call the crew in an emergency. No measures had been taken to establish any degree of watertight integrity before rounding up the tow, although the nature of the river at that location with strong currents, eddies, and whirlpools was well known. As soon as the starboard rail dipped below the surface, water poured freely into the tug, sinking her almost immediately. Undoubtedly, several of the men were asleep when the tug started to sink.

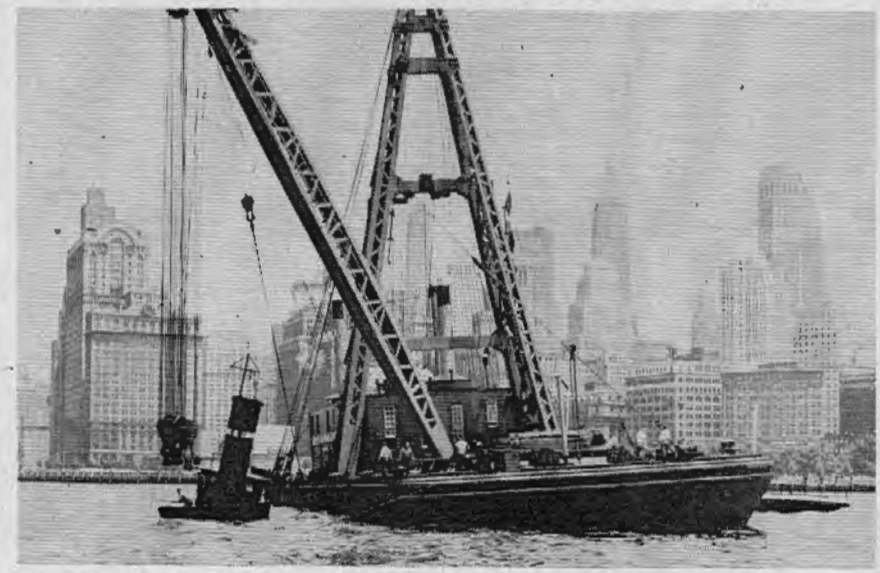


Figure 2. Another tug being salvaged after capsizing off the Battery in New York harbor.

At the moment when the tug's bow started to fall off with the current, and with a heavy tow on a short stern hawser, minimizing any possible steering effect, it is probable that the only factor which could have saved this tug and gotten her out of a perilous situation was a burst of reserve power. Such power was conspicuous by its absence.

TUG OVER-RODE

A tragic towing casualty took place about a year ago in an East coast harbor in approximately the same manner, but due to a different cause. In this casualty, the tug was sunk by the barge due to improper maneuvering, not lack of power. The tug in this case was 76 feet long, of 77 gross tons, and propelled by a 775 hp. diesel engine.

Towing a molasses barge, partly loaded, on a stern hawser, the tug was underway in a busy harbor at night. The rake-ended barge drew 8 feet aft and nothing forward. As the tug approached a point in the channel where there was a sharp turn to starboard, preparations were made to shorten the towline before heading for the delivery dock. One deckhand went aft to haul in the hawser. The Master stopped the engine in order to get slack in the hawser, and then backed slightly to assist the deckhand in taking in the slack. In the dark, the Master's judgment of the relative positions and movements of the two vessels was probably in error. Suddenly the deckhand shouted to the Master, "Go ahead!"

At this moment the light, high, rake end of the barge rode up over the starboard quarter of the tug, swinging it to starboard. The tug heeled sharply to starboard and a torrent of water rushed aboard. In less than 2 minutes, the tug was at the bottom of the harbor. Four of the crew of six were able to save themselves by clinging to a lifeboat, which had floated free. The Master's body was found floating near the scene 5 days later. The body of the Chief Engineer was found, trapped in the engineroom, when the tug was raised.

IN IRONS

In another accident, about a year ago in a West coast harbor, one man lost his life when a tug was partially capsized upon being caught "in irons" while towing a large freighter. The

7,000-ton foreign ship was powered by two diesel engines which had been warmed by circulating warm water for 8 hours before departure, but not started or turned over prior to unmooring.

With the 68 gross ton, 450 hp diesel tug towing on a 9-inch hawser from the freighter's port quarter chock to the after bitts of the tug, the freighter started slowly astern out of a slip. The eye of the towline was secured to a pelican hook at the tug bitts.

When the freighter was well clear of the slip, the tug commenced turning to its own right in order to pull the freighter's stern to port. HALF AHEAD was ordered on the freighter's port engine. There was no response. The port main engine fuel line was airbound and the engine could not be started. As the tug worked out on the port quarter and the freighter continued astern, the tug found itself in a position where it could not effectively exert any power in swinging the freighter's stern but was, instead, being carried sideways by the freighter's momentum.

The tug Captain shouted, "Release the pelican hook!" However, the terrific strain on the towline had jammed the releasing pin and it could not be pulled free. He shouted to the crew, "Look out for yourselves!" Two men ran forward. The tug listed sharply to port. One man fell or dove into the water. About this time, the freighter's starboard engine was kicked ahead strong for about 30 seconds—enough to stop the sternway. The tug then righted itself, just in time, and suffered no damage. As soon as the tug could let go of the towing hawser, it proceeded to try to pick up the man who had fallen overboard—he could not be found. His body was recovered 19 days later.

While the lack of reserve power on this tug may have contributed to this casualty, the principal cause seems to have been the failure of the pelican hook to trip when the emergency arose. If the pelican hook had not been present, there would have been no reliance placed on its quick-release feature. There would probably have been an ax handy and a deckhand ready and willing to use it to save his own life.

COUNTER-CLOCKWISE TURN

A disastrous accident occurred in New York harbor about two years ago when a tug suddenly found itself being dragged sideways. It capsized, and sank in a period of about one minute. The unfortunate vessel, an inspected steam tug of 194 gross tons and 800 hp., was en route, at night, with a railroad carfloat alongside, from Days Point, New Jersey, to Pier 15, Brooklyn. The tug was towing from a position abreast of the barge's port quarter with 2 manila towlines leading forward and aft from the bow bitts, and 1 line, doubled up, as a stern towline leading abreast from the stern bitts to the barge. The carfloat was trimmed slightly by the stern.

As the tow approached the Battery at normal FULL AHEAD cruising speed, the ebb current from North River had no appreciable effect on the course. However, about 4:00 a. m. as the tow swung left at the Battery, the influence of the East River ebb was felt. It acted principally on the hull of the tug and the deeper after section of the carfloat; that effect, plus a southwest wind of about 10 knots acting principally on the higher forward section of the carfloat, set up a counter-clockwise turning moment.

The tow was soon out of control. The tug stopped and backed FULL ASTERN—to no avail. The carfloat continued to swing to port, its stern dragging the tug sideways toward its starboard hand. This effect took place so rapidly that there was no time to cut the stern line. The tug heeled sharply to starboard under the terrific moment of the stern line pulling on the stern bitts, and water poured over the rail. As the tug settled, her high wheelhouse fetched up momentarily on the side of the carfloat, then slid off.

In the excitement, the Master failed to pass any orders either to cut the towlines or to abandon ship. In fact, the Master landed on the carfloat before any of his crew. As he explained it later, his early arrival was due to his being "thrown" there from the wheelhouse as the tug heeled over.

Three of the crew and the Chief Engineer were able to crawl over onto the carfloat before the tug sank. An oiler clung to the top of the pilothouse which was not quite submerged, and was finally hauled to safety on the float. The fireman on watch was trapped in the engineroom—his body was found when the tug was raised. (*See Figure 2.*) A nearby towboat arrived at the scene a few minutes later, removed the survivors, and secured the derelict float.

Inasmuch as the Master of this steam tug was serving under the authority of his Master's license, a hearing was held and his license suspended for a period of nine months, based on a charge of negligence contributing to loss of life. It was felt that the Master should have observed extra care by approaching the turn at the Battery at reduced speed.

CONVERTED FROM STEAM TO MOTOR

Another disheartening towboat casualty, with loss of life, occurred in

the same area about a year later. The tug involved was 71 feet long, of 91 gross tons, and propelled by a 600 hp. diesel engine. At the time of the accident, she was engaged in towing 2 derrick barges and 2 scows on a bridle towing rig astern. The barges were tied abreast at the head of the column, and the scows were tied abreast at the stern of the column.

The tow started out from a repair yard and headed upstream to a large construction project. There were six men on board the tug. Although the tug was not heavily powered for this tow, there was no difficulty, at first, in making headway as the weather was fair. However, after proceeding several miles, the wind, which was from ahead, freshened up. Working on the large amount of freeboard area of the towed vessels, it began to exert increased pressure against forward progress. Very shortly the wind increased up to 40 or 50 knots, in gusts.

Using the radiotelephone the Master called for help. By this time the lightly-powered tug was being dragged rapidly down-wind by the tow. As the tug yawed to starboard and the tremendous pressure exerted by the tow was felt strongly on the starboard side, she took a sharp list to starboard. The Master immediately ordered the towing lines cut and the engine stopped. The line on the port side of the bridle was immediately cut. Unfortunately, the engineer on watch had just run topside for a life jacket and therefore, his action to stop the engine was too late. Water poured into the engineroom. The Master ordered all hands to "jump" and left himself after all the crew were off and water commenced to pour into the pilothouse.

As the crew abandoned, 3 men had life preservers on and 3 did not. One of the engineers who had no life preserver clung to the other engineer who had one on. Both men were saved by one life preserver. Unfortunately, the body of the cook, still wearing a life preserver, was found on the engineroom grating when the tug was raised. It is believed that he was pulled back inside the engine compartment by suction as the tug submerged and he could not escape before drowning. Two other crew members who jumped overboard without life preservers were drowned. Of the 6-man crew, only the Master and the 2 engineers were rescued.

The tug had been converted from steam to motor approximately 4 years before the casualty (*See Figure 3*). It is believed that the conversion, which included the elimination of a high pilothouse, increased rather than decreased her stability. However this vessel, with her diesel engine installed, was still underpowered for the tow and did not have sufficient freeboard to resist the effects of the violent heeling moment.

CANADIAN TUG CAPSIZES

The tragedy of a sudden, unexpected sinking attended by the drowning of trapped men was re-emphasized about 4 months later in an American Great Lakes port when a Canadian steam tug capsized and sank within minutes. Three crew members were drowned. The tug was 109 feet in length, of 299 gross tons, and was steam-propelled.

She had been tied up, starboard side to a coal bunkering vessel. She had a thwartships coal bunker running the width of the vessel and two side bunkers. The capacity of the thwartships bunker was 68 tons and the capacity of each side bunker was 20 to 25 tons. There was an after peak tank of 14 tons capacity which was about three-fourths full of water. The forward peak tank was empty. The surviving crew members stated that they had no knowledge of the principle of "free surface effect."

The thwartships bunker was filled to capacity first. The Master then directed that additional coal be piled on top of the hatch to this bunker. It was estimated that approximately 4 or 5 tons of coal were thus piled on top of the deckhouse level. Next, the starboard bunker was filled. At this point, the tug had a slight starboard list. The tug then swung her stern out from the bunkering vessel, let go her lines, and backed away, for the purpose of mooring port side to, in order to fill the port bunker.

As she went astern the Master felt a slight surge and sensed that his vessel had grounded. The starboard list now increased alarmingly, and he shouted for his men to get off. No attempt was made to sound the general alarm bells, to blow the whistle, or give any other signal for abandon ship. Within seconds, the tug had capsized and settled on her starboard side on the bottom. The water boiled violently but the boiler did not explode.

Of the 13 men on board, 10 managed to leave the vessel and reach shore safely. Three were trapped below in their quarters and drowned. They were off watch and probably asleep in their bunks.

Analysis of this tragedy indicates that the vessel was in an extremely unstable condition when she began to back away from the bunkering vessel. With some starboard list, the grounding near the stern probably tended to increase the starboard list slightly. At this point the water in the after peak tank probably set up a cumulative free surface effect tending to increase the starboard list further. Due to the open coal scuttles on deck, open drains cut into the bulwarks along both sides, and the strong possibility that the piled-up coal slid to the low side as the vessel listed, she very quickly reached the point of no return and filled with water.

Here was a tragic loss of life occurring in a sheltered harbor with very shallow water—attributable only to deplorable seamanship and judgment. With all of the factors which set up this tragedy, the result was a foregone conclusion.

NO BULKHEADS

A casualty to a small towboat, which exemplified some of the worst features of this class of uninspected vessels, occurred last year in an Eastern river, when a wooden tug, built in 1874, foundered. Luckily, there were no lives lost. The tug was 91 feet, of 79 gross tons, and equipped with a 260 hp. diesel engine. She was wide open from stem to stern, without even a forepeak bulkhead. In recent years she had frequently visited shipyards for bottom work, caulking, etc. She had a permanent port list with approximately 2 inches of freeboard on the port side and 6 inches on the starboard when loaded with fuel and water. In addition to other built-in hazards, a gasoline emergency bilge pump was carried in the engineroom.

One wintry morning the tug joined a tow of 16 loaded rock barges which were being towed downriver by two larger diesel tugs. A northwesterly storm was making up, the wind blowing on the starboard quarter of the tow. The old wooden boat tied up first on the starboard side of the column, but there was too much chop on this side so she shifted to the port side.

About noontime, as the wind grew stronger, seas started to break over her stern and water accumulated on deck. The bulwark was of solid planking except for occasional 1½-inch openings between the lower edge of this planking and the deck which served as freeing ports. The openings were insufficient to discharge all of the water coming aboard and the permanent port list gradually increased until the engineer on watch could not stand without holding on. Winds were now up to 50 or 60 m. p. h. in gusts.

About 1:30 p. m. the Master decided that the tug could not survive and ordered all hands off the boat, onto the barge. When all the crew were safe on the barge, the tug, which was now heeled over to the point where water was pouring aboard, was cut loose. It drifted off a short distance on its beam ends, then quickly sank. The wooden pilothouse broke off as the hull submerged.

That this ancient ark came to its final watery resting place without loss of life comes strictly under the category of divine benevolence. Under what stretch of the imagination she could be deemed seaworthy for anything rougher than a millpond is beyond comprehension. Yet, how many motor towboats in just as poor condition, or worse, are daily engaged in commerce on the waters of the United States?

GULF COAST CASUALTIES

There have been a great many casualties in the Gulf Coast area in recent years involving small motor towboats. Three representative cases are mentioned here as a sample of the state of marine safety which exists on the uninspected vessels in that area. All occurred within the last 3 years.

In the first case, a 58-foot diesel tug, of 53 gross tons, and 500 hp. was towing two 235-foot empty tank barges on a short stern bridle. The barges were in tandem. The mate on watch had gone below for a couple of minutes and the helmsman was alone. Shortly after 2:00 a. m., the tug suddenly heeled hard to starboard. The mate rushed out on deck, found the tug being jacked by the lead barge and swinging hard left. He let go the starboard side of the bridle and immediately the port towline parted. At this moment, the rake end of the barge over-ran the tug and capsized her in one motion. She filled within seconds and sank.

The Master, asleep in his cabin, was unable to escape and drowned. It was determined that mechanical difficulties had been experienced with the electric hydraulic steering gear. The survivors were convinced that the gear had jammed hard over to port, thus causing the tug to swing left out of control, be jacked, and sunk.

In the second case, which occurred last summer, another small diesel tug measuring 54 feet, of 47 gross tons and 270 hp. (*see Figure 4*) was sunk when overwhelmed by rough seas during a towing operation. The towboat had gone after a drifting barge which had broken loose from a mooring during a storm. With the stray barge in tow, the tug headed for a nearby inlet. Strong northerly gales pounded the blunt-nosed craft and seas broke continually over her bow.

It became obvious that water was entering the hull, probably through vents, as the bow rode lower and lower. Water was noticed entering the engineroom around the doors, and the engineers found water in the fuel. Since the tug's bilge pump had been removed from the vessel, the crew attempted to use a portable gasoline pump. During a particularly heavy roll, the pump slammed against a bulkhead, the spark plug shattered, and the magneto was soaked—it was inoperative.

One heavy sea tore off the lower half of the port engineroom door—flooding was now continuous. A few minutes later the bow plunged under and the tug settled to the bottom at a point where the depth was only 12 feet—the upper part of the pilothouse remained above water. Of the crew of 7 men, 3 reached shore, wearing life jackets, and summoned help for the 4 who were huddled on the protruding pilothouse. A Coast Guard helicopter finally succeeded in hoisting all four from the wreck and delivered them safely ashore.

Here was a small tug with little freeboard, few if any watertight closures on the weather deck, and vents forward which admitted water to ballast spaces and fuel tanks as soon as seas came over the bow. Yet, she was assigned a difficult job with heavy weather making up and no bilge pump installed! Poor judgment, poor equipment, and adverse weather combined to add up to the usual obvious result.

SINK AND RE-SINK

You would think that the owners would have taken every reasonable precaution to avoid a repetition of such a casualty after the vessel had been raised and repaired. Yet, in April of this year, the very same tug foundered in the very same locality, and 8 of the crew of 9 were rescued and transferred ashore by 2 Coast Guard helicopters—one of which was the same helicopter with the same pilot that participated in the previous rescue.

One cannot help but wonder how many will lose their lives the next time this vessel gets into trouble.

The third case concerned a 63-foot diesel towboat of 63 gross tons which suddenly found itself sinking for no obvious reason. She had delivered a stern tow of three barges at a Southern port. The tow was cast off out in the stream and the tug made a sharp left turn to come alongside to push the barges to the dock. In swinging hard left, the towboat took a sudden list to starboard, filled with water and sank. All hands swam ashore except the Chief Engineer who drowned.

The sunken tug was raised but no damage or openings in the hull could be found. However, a ballast tank across the hull, aft of the engineroom was known to have a leaking manhole cover. There were no watertight bulkheads installed. The fuel tanks were built integral with the hull along each side abreast the engineroom. There were four on each side. Tanks Nos. 2, 3, and 4 on each side were vented to No. 1 by means of holes cut at the top of the dividing bulkheads. No. 1 tank on each side was vented to the atmosphere by means of a 1-inch line to the upper deck. The tug had

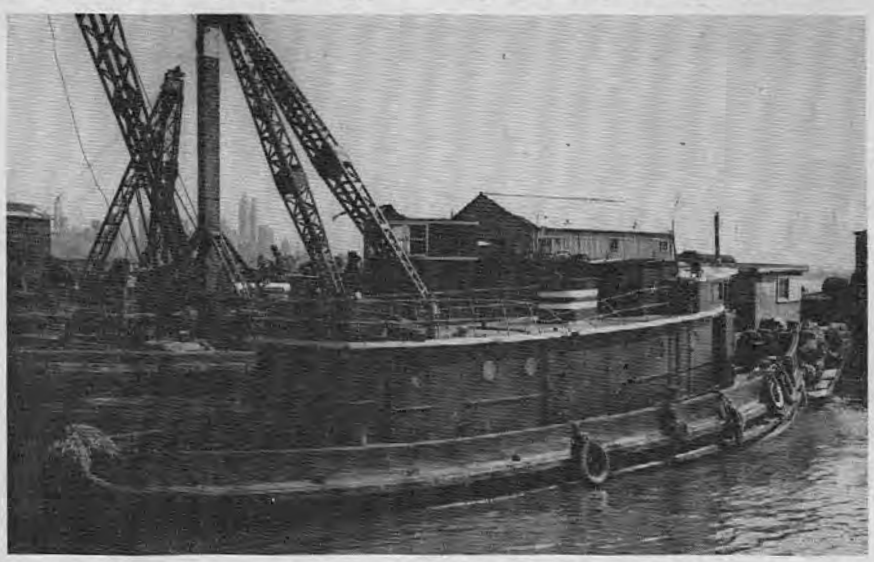


Figure 3. View of tug a short time after it was refloated. Note the low center of gravity—nevertheless she capsized, mainly because she was underpowered.

recently made a practice of carrying large amounts of heavy towing gear, some of which was piled on top of the deckhouse.

It was concluded that the thwartships ballast tank had accumulated considerable water due to leakage around the manhole cover. As the tug heeled initially due to the hard left turn and high superstructure, water in the ballast tank, with a cumulative free surface effect, gathered on the starboard side. The heeling moment of the excess weight topside added to the starboard list to the point where water poured aboard and through openings in the deckhouse, and the vessel was lost. Upon salvage, no fuel was found in the port tanks but one starboard tank was three-fourths full. The unbalanced distribution of fuel weight might well have established an initial starboard list.

Lack of compartmentation, dangerous distribution of weight, and poor maintenance of hull and fittings were the causes of this tragedy. While the holes in the fuel tank bulkheads which served as vents probably did not contribute to the capsizing, such a haphazard and dangerous a practice as this is indicative of the general condition of the tug and her state of seaworthiness.

TOW SOMETIMES DAMAGED

Serious casualties in which towboats are involved do not always happen to the towboat. Quite often the damaged or sunken vessel is the tow, or another vessel which encounters the tow. One unfortunate incident of this nature occurred one night two years ago on a West coast river. A 61-foot diesel tug was pushing a loaded rock barge upstream. The required green and red running lights were not carried on the barge but instead, two white lights, showing about 180°, were mounted on the forward port and starboard corners, supplied by electric power from the tug. Electrical difficulties were encountered and the port light was disconnected. The starboard light, which was of considerable brilliance, was trained about three points on the starboard bow to facilitate navigation by illuminating the river bank.

At 9:40 p. m., a 28-foot cabin cruiser containing five persons approached the tow from upriver. The operator was partially blinded by the glare of the strong white light and could not make out the barge and tug. He altered course slightly to starboard to avoid the white light but the port corner of the barge struck the motorboat, which rolled over and remained in a capsized position. Two women from the pleasure craft were drowned.

As a consequence of the negligence of the tug Master, in failing to display proper running lights on his tow; his unauthorized use of a strong blinding white light; and his failure to blow any warning whistle signal of approaching danger; he was tried on criminal charges in a Federal District Court. The charges were based on the "negligent or reckless operation" clause of the Motorboat Act. He was found guilty, and was severely fined.

A serious towing casualty in which loss of life was narrowly avoided occurred last summer during the attempted transfer of a large, nonselfpropelled dredge overseas. The dredge sank at sea and all nine men aboard were rescued by the towing vessel, but only after many harrowing and dangerous hours. Lack of effective communications and planning was a contributing cause of the casualty.

The dredge had normally been employed only on inland waters. She was prepared for the ocean tow by the installation of a false bow, a lifeboat with capacity for 20 persons, life preservers, and two 15-person balsa life floats. In addition, two radio transmitter-receiver sets were installed; a portable battery-powered "walkie-talkie" type on the dredge and a larger set using ship's power on the tug.

The Master of the dredge later stated that definite arrangements had been made with the towing personnel to exchange radio communications at the end of each 4-hour watch. The tug's Master denied that any such arrangements had been made. However, until the night before the casualty, radio communication was established when necessary.

TOW TAKES WATER

The tow proceeded without trouble at speeds of about 5 to 8 knots for the first three days. On the fourth day, trouble started. Heading into a heavy sea, the dredge pounded hard and began to take water in its engineroom and bottom tanks due probably to started rivets and seams. At the request of the dredge, the tug reduced speed and the dredge rode more easily.

By evening, water leaking in at the forward house had found its way to the engineroom and eventually shorted out and disabled a 100 kw. diesel-driven generator. The Master was immediately informed and attempted to call the tug, by radio, to further reduce speed. He received no answer. A flashing light also failed to produce any visible response. However, the tug personnel had heard the radio request and seen the flashing light, and had reduced speed considerably.

The engineers on the dredge now attempted to start a 1,000 kw. diesel generator, only to discover that the starting air pressure had fallen to a point where the engine would not start. There was now no means of building up the air pressure. Bilge pumps, which were electrically driven, were now useless. At 5:20 a. m. on the fifth day, the mate on watch on the tug called the Master and told him that the dredge was flashing a light but that radio communication was not functioning. The tug slowed, shortened hawser, and hove to, while the Masters exchanged information by shouting.

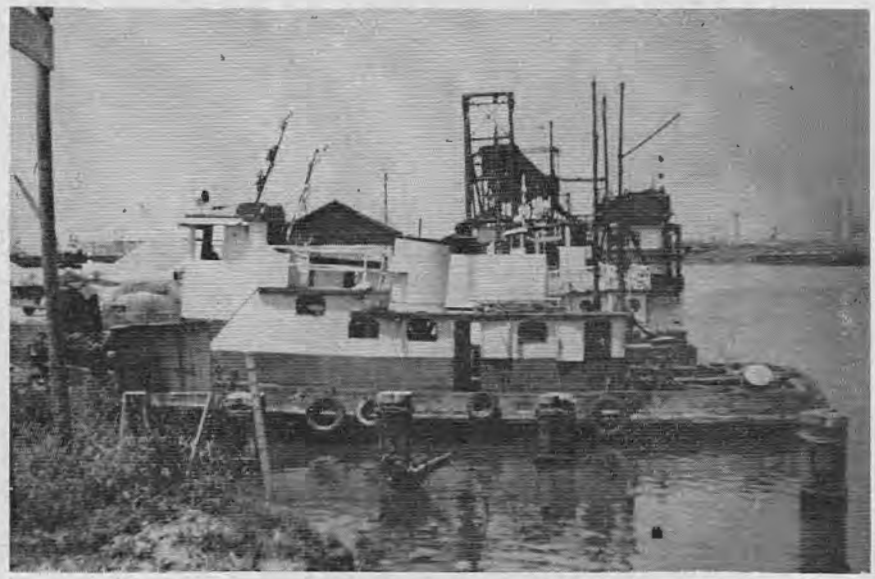


Figure 4. View of tug after being refloated and pumped dry. A short time after this picture was taken she was involved in a similar accident and sank again.

The tug launched a motor lifeboat and, with difficulty, a portable 2-inch suction gasoline pump was placed aboard the dredge. By this time there was 3½ feet of water in the engineroom, her bow was low, and seas poured aboard. As the situation was rapidly becoming worse, all hands were ordered off. With superior seamanship and a good measure of luck, the lifeboat was able to remove all the men to the tug. Dredge personnel stated that they would not have been able to launch their lifeboat due to the list of the dredge and the heavy seas smashing on the side where the lifeboat was mounted. Thus, if the tug's boat had not been able to remove them, they would have had to take their chances in the water with life jackets and the balsa floats—not a happy prospect.

Within 2 hours, the dredge sank. Estimated loss due to this sinking was $1,500,000.00. To this financial loss, however, could well have been added the more tragic loss of several men's lives, had circumstances been less charitable.

EMERGENCY SIGNAL

As previously mentioned, communication is essential between tug and tow, particularly when the tow is on the remote end of a stern hawser. Casualty records contain incidents where tugs with stern tows in heavy weather at night have discovered the hawser to be parted and no sign of the tow. In some instances, the tow has gone ashore, capsized, or foundered, with loss of life, and no emergency signal of any nature was received by the tug. It is difficult to conceive of a more distressing situation to men on a helpless tow than facing the realization that not only are they adrift in bad weather, but the fellow up ahead with the power plant does not even know they are gone.

A reliable two-way radiotelephone installation on tug and tow, together with a systematic plan for its use, is certainly one of the best ways to avoid this dilemma. It is obvious that most manned stern-hawser tows on inland or coastal routes do not have such a radio installation. In this case other methods of communication must be used, such as a flashing light, horn, whistle, bell, or flare. It should be remembered that all have serious shortcomings in that they are often not positive in attracting attention or in being properly understood, especially during heavy weather when their need is the greatest.

In such emergencies where an attempt to get the attention of the tug has failed, it has been suggested that the towline be cut with the chance that this drastic measure will gain the attention of the towing vessel. This method is dangerous and should never be used unless there is a good chance for the tow to survive alone. Yet, this course is preferable to being towed under and sunk with the tug still steaming FULL AHEAD.

Since manned tows will undoubtedly continue to operate without radio equipment and will continue to have difficulty calling the towing vessel when trouble arises, the most effective method of avoiding casualties will be the maintenance of a continuous, alert lookout by the tug. When manpower is available, the detail of a man aft to keep the tow under constant surveillance, should be mandatory. After all, the safe handling of the tow is the reason for the tug's existence.

SAFETY MEASURES

We have seen in the foregoing cases how lives have been lost through towing heavy tows with under-powered tugs and through errors and negligence on the tug and tow. Let us now discuss some measures that can be taken to lessen the chances of an accident. For one thing, the tow, if manned, should always have men on deck ready to take towlines or cast them off, a difference of a few seconds can often mean the difference between a routine operation and a casualty.

Another area where safety can be aided is on the bridge of the big ship, particularly when tugs are being controlled by a ship's officer rather than a docking pilot. In approaching any tight spot such as a narrow bridge opening or the end of a slip, give the tug a break. If the situation becomes critical due to your failure to release or "blow off" the tug at the critical moment, and you crush the tug and drown its crew, wouldn't it have been far better to have allowed the tug to get free in time, even though you damaged a plate or crushed a piling?

Lastly, a thought for the tug alongside when you reach for the engineroom telegraph. It is perfectly understandable for any shipmaster to think first of his own ship. But when the tug is between you and the solid object, and your first reaction to a developing "pinch" is to ring up your engine and get clear, give a thought for the tug before you move the handle. All those horses at your control are quite capable of crushing the tug like a matchbox or dragging her under with ease, should you ring the wrong direction or the wrong amount. Tugs and the men that man them are hardy and efficient but they, like the members of any team, are fully dependent on you to play your part considerately and wisely.

⚓ TRADITIONS OF THE SEA

The roll of American Seafarers who have performed their duties in an outstanding and meritorious manner in accordance with the highest traditions of the sea is long but never completed.

One of the names which has a distinguished place on this honor roll is that of CAPTAIN JOHNATHAN M. WAINWRIGHT.

During the invasion of Salerno in September 1943, Captain Wainwright lost his ship, the SS *Bushrod Washington*, as a result of aerial bombing; and subsequently, directed the salvage of the SS *James W. Marshall*.

On December 23, 1943, the President of the United States conferred the *Merchant Marine Distinguished Service Medal* on CAPTAIN JOHNATHAN M. WAINWRIGHT.

A summary of the citation is as follows:

> For distinguished service under specially hazardous conditions.
>
> During the invasion of Salerno, his ship, loaded with war supplies, including ammunition and gasoline, was subjected to intensive aerial attacks for 3 days. On September 15, 1943, she was struck by a huge bomb, took fire, and in a short while exploded. Although the ship was a raging inferno, he successfully directed the removal of the crew before the ship exploded.
>
> The following day, at the request of the Commander of Naval Forces, he boarded a half-sunken freighter which was loaded with war supplies. The ship had been heavily bombed and abandoned. Through his efforts, the freighter was moved to within a few hundred yards of the beach where nearly all of the sorely needed cargo was discharged.
>
> When the discharging was completed, he directed the successful salvage of the freighter. This involved a hazardous 300-mile tow to the Port of Bizerte.
>
> His outstanding courage, leadership and disregard of personal danger were in keeping with the highest traditions of the United States Merchant Marine. ⚓

SIDE LIGHT SCREENS

When a long established custom is suddenly radically changed, it is only natural for people to question the reason. Such was the case in 1952 when a Coast Guard regulation was enacted which specified that side light screens should be painted black instead of red and green.

Side lights and inboard screens were first required on English ships in 1848. The following year the U. S. Navy Department issued a *Notice to Mariners:*

> The subjoined instructions are forwarded from the Navy Department. That all United States steamers will carry the following lights when at sea during the night, viz: A white light at the foremast head, a green light on the starboard paddle box, and a red light on the port paddle box.

Appended to this *Notice* were diagrams which showed the arc of visibility and the dimensions of the inboard screens.

Since that time it has been the custom to paint the port and starboard screens red and green. It is not surprising then that seafarers questioned the necessity for the new regulation. There was justification for the change as we shall see.

Following World War II, with navigation lights burning bright once again, there were several collisions involving naval vessels in which the arc of visibility was an important factor in determining the cause. Accordingly, the Navy conducted a series of comprehensive tests of side lights and screens.

It was determined that the light rays' reflection on the red and green screens made it possible for the light to be seen through a much wider arc than the *Rules* permitted.

The question then arose—what color should the screens be painted. Theoretically, it would be desirable to use a paint with a reflection of zero, but, every material, including paint, possesses some ability to reflect. The paint with the minimum reflection factor or reflectance is black.

There are two principal types of reflection—diffuse and specular. Diffuse reflection is that in which the light is reflected in all directions; specular reflection is that in which the angle of reflection is equal to the angle of incidence.

The diffuse reflection is the type which affects the arc of visibility. Experiments showed that glossy black paint, although having a higher total reflection has a lower diffuse reflection than dull black paint. Therefore, by the use of glossy black paint on the screens, diffuse reflection is reduced to a minimum.

Soon after completion of the tests, the Navy required all naval vessels to paint the screens black. The Coast Guard, learning of the action, requested the Navy to furnish the results of the tests. As soon as the Coast Guard reviewed the findings, it was decided to require the same on merchant vessels. The regulation can be found in *Electrical Engineering Regulations* and reads as follows:

> 46 CFR 113.55-20 (a) Light screens required by the Pilot Rules for port and starboard side lights shall be painted with a glossy black paint and shall project not less than three feet forward of the center of the light source.

CONVENTIONS

The Government of the United Kingdom has advised this Country that acting as the depository nation, it has received notification of acceptance from Brazil, Venezuela, and the Dominican Republic of the International Convention for the Safety of Life at Sea, 1948. The Brazilian and Venezuelan acceptances will take effect, respectively, on April 17 and May 8, 1956.

This Country was also advised that, in accordance with Article 66 of the International Convention for the Safety of Life at Sea, 1929, the Government of Pakistan denounced that Convention. The denunciation will take effect on December 7, 1956.

MERCHANT MARINE STATISTICS

There were 1,073 vessels of 1,000 gross tons and over in the active oceangoing U. S. merchant fleet on April 1, 1956, according to figures released recently by the Maritime Administration. This was three less than the number active on March 1, 1956.

There were 27 Government-owned and 1,046 privately owned ships in active service. These figures did not include privately owned vessels temporarily inactive, or Government-owned vessels employed in loading grain for storage or undergoing repairs. They also excluded 53 vessels in the custody of the Departments of Defense, State, and Interior.

There was a net decrease of 6 vessels in the active, and 4 vessels in the total (active and inactive) privately owned fleet, with the sale of 1 freighter and 2 tankers to foreign flag, and the loss of 1 freighter as a marine casualty (Washington Mail).

The Maritime Administration's active fleet increased by 3 while its total fleet remained the same, with the return of 1 freighter from charter and the transfer of 1 freighter to the Navy. This made a net decrease of 4 vessels in the total merchant fleet, active and inactive, which numbered 3,231 on April 1, 1956.

Orders for 2 tankers by a private shipping company brought the total of merchant oceangoing vessels being built or under conversion to 38.

MARINE SAFETY MILESTONE

On May 10, 1956, the President signed into law P. L. 519. This Act marks a milestone in marine safety history.

The Act requires Coast Guard inspection, at least every three years, of all vessels carrying more than six persons for hire. Types of vessels specifically affected by the legislation include sailing vessels of 700 gross tons or less; barges of 100 gross tons or less; and, mechanically-propelled vessels of 15 gross tons or less.

It is estimated that more than 8,000 small passenger-carrying vessels of less than 15 gross tons will come under the inspection requirements of the Coast Guard.

Similar bills were proposed to Congress in 1951, following two fishing boat casualties off Montauk Point—*Jack* and *Pelican*—wherein 56 lives were lost; but, they were not enacted into law.

As a result of these two casualties, several bills were proposed to Congress, calling for increased safety and inspection requirements on small mechanically propelled passenger-carrying vessels for hire. P. L. 519 evolved from these early bills. Subsequent to the preparation of the legislation, the tragic foundering of the sailing vessel *Levin J. Marvel* in the Chesapeake Bay in August 1955 pointed up the need for requiring inspection and certification of other types of passenger-carrying vessels, such as sailboats and barges. The new law was the result.

LESSONS FROM CASUALTIES

THINK FIRST—TURN VALVE LATER

THERE is an old saying that "familiarity breeds contempt." It is usually applied to human relationships; however, it is sometimes particularly applicable to inanimate objects. On board ship such an object might well be a valve; and while a valve may appear to be just another piece of metal, if not opened and closed with forethought, injury, death, or a disabled ship can result.

In 1954, the British freighter, SS *Spring Bank,* was on drydock in a southern shipyard. The tail shaft had been drawn and to facilitate its removal a section of steam line in the shaft alley had been removed. That section was part of the steering engine steam line which ran through the shaft alley and up to the steering engineroom. As soon as the section was removed a blank was put on the line, but the main valve in the engineroom was neither locked nor tagged.

On the morning of the day the ship was to leave the drydock, the tail shaft had been coupled and a gang of pipefitters had commenced to connect the steering engine steam line. While the work was in progress, the port engineer boarded the vessel and instructed the Chief Engineer to place the steering engine in operation so he could check the rudder swing. Meanwhile, in the shaft alley, the workers had removed the blank from the steam line and were lining up the flanges.

JET OF STEAM

Suddenly, without warning, a stream of hot water followed by a jet of steam blew out the open end. The men scrambled to escape from the scalding vapor. All but two escaped and they were trapped directly in the path of the steam. One of the men who had jumped clear ran forward into the engineroom shouting, "Close the steam valve!"

As soon as the valve was closed, the Chief and some of the black gang felt their way aft through the steaming confines of the shaft alley guided by the screams of the injured. They found the men and removed them to the dock. It was apparent from their burns that they were near death—an ambulance was called and they were rushed to the hospital. The coroner's report showed that one of the men had second and third degree burns over 60 percent of his body and the other had burns over 80 percent of his body.

This is a case where by a simple turn of a valve two men were killed. In the rush of last minute activity before the ship was to enter the water, it can readily be seen how the Chief overlooked the parted line. When a steam line is uncoupled, it is not sufficient that ship's personnel trust to their memory. The only rule that can be followed is to padlock and tag the valve until the work is completed. If this simple precaution had been taken the two men would still be alive.

WATER ON DECK

The second casualty, fortunately, did not result in death. A combination passenger-freight vessel, however, operating on a tight schedule, was forced to put into port for emergency repairs. The ship involved departed New York last December 2 bound for Valparaiso, Chile.

The day before departure the Chief Engineer was notified that freezing weather was expected during the night. He and the first assistant opened the fire main drain valves on deck and the hydrants considered necessary to drain the fire main. Two of the hydrants were Nos. 16 and 17, located inside the after deckhouse. The mate on watch was advised that the valves were open and a notice was posted in the engineroom, "Fire main drained."

On the 4–8 watch the first morning at sea, the second mate instructed his ordinary seaman to close all deck drain valves and fire hydrant valves in order that pressure could be put on the fire line for the purpose of washing down the decks. A short while later the ordinary seaman reported back that all valves were closed. Accordingly, the second mate called the engineroom and requested pressure on deck. The second engineer dutifully asked about the open valves and was informed that they had been closed. Pressure was put on the line and the decks were washed down.

POWER FAILURE

Shortly after 7:30 a. m. the Chief became aware that they were washing down the decks and went aft to check on hydrants Nos. 16 and 17. He found the valves in an open position and closed them—too late. The boatswain's storeroom on the main deck was flooded. The steering engineroom below the flooded storeroom was locked and he returned to his room for the keys. While he was in his room, the watch engineer called to notify him that the steering motor's power failure alarm had sounded at 7:48 a. m. The Chief hurried aft and found both steering motors partially submerged in 2 feet of water.

There were three 2-inch drains leading from the boatswain's storeroom to the steering engineroom below and three 2-inch drains from the steering engineroom to the shaft alley. The drains were too small to take care of the hydrants' discharge. It was another 30 minutes before the water had drained below the level of the motors. Then, they were flushed with fresh water, cleaned with cleaning fluid, dried out, and megger readings taken. The readings were low but at 9:15 a. m. they were put back in operation. However, 10 minutes later, the motors failed—the vessel was hove to off the Atlantic coast.

Since further repairs were beyond the capacity of the ship's personnel, there was only one course of action—put into the nearest port for emergency repairs. Accordingly, the emergency hand steering gear was engaged and, at 9:36 a. m., the ship got underway for Norfolk. A short frustrating voyage to say the least.

It would serve no purpose to blame any one man for the series of the events which resulted in a disabled ship.

The Chief stated he had intended to check the after hydrants but had no idea the deck gang would wash down so soon after departure from New York—a reasonable assumption.

The ordinary seaman stated he had closed the hydrant valves under similar circumstances before, and had never known of Nos. 16 and 17 being opened.

The second mate stated that the ordinary was a qualified seaman and he had no reason to question his report.

The watch engineer had properly questioned whether the valves were closed before he put pressure on the line and had been told they were closed.

Nevertheless the casualty did occur. The only conclusion that can be drawn is that whenever a valve is opened, the fact should be made known, if not to all hands, at least to all mates and engineers. This is a good example of where closer cooperation between the two departments would have paid off.

SHIP CASUALTIES IN 1955

Casualties to ships during 1955—7,575—showed a marked increase as compared with 7,013 in 1954, and 7,269 in 1953. These figures are issued annually by the Liverpool Underwriters' Association and concern ships of 500 gross tons and over.

Of the 1955 casualty figure, 105 were total losses and 7,470 were partial losses. In addition, 5 ships were mined, one of which became a total loss.

A breakdown of the total loss figure indicates the following causes: foundering and abandonment, 17; stranding, 51; collision, 23; fire and explosion, 5; other casualties, 4.

Partial losses were the result of: weather damage, 1,033; stranding, 1,061; collision, 1,489; fire and explosion, 415; damage to machinery, shafts, and propellers, 1,510; other casualties, 1,962.

Great Britain suffered the greatest total loss with 19, aggregating 40,509 gross tons. Sweden was second with a total loss of 9, aggregating 25,056 gross tons.

The United States lost 6 vessels, aggregating 22,924 tons. A breakdown of United States' total losses (vessels over 500 gross tons) for the last 5 years is as follows:

		Gross tons
1951	9 vessels	50,339
1952	14 vessels	70,542
1953	9 vessels	63,583
1954	3 vessels	7,793
1955	6 vessels	22,924

MINE LOSSES

The yearly totals (for vessels of 500 gross tons and over) since the war of casualties in European waters resulting from mines have been as follows:

1945	25	1951	5
1946	23	1952	8
1947	34	1953	3
1948	20	1954	5
1949	22	1955	4
1950	19		

HIGHLIGHTS ON THE RULES

A recent admiralty decision concerning pilots and collisions will be read with interest by all Masters who have been required to take a compulsory pilot.

In *Mattina v. Commercial Cable Co.*, 1956 A. M. C. 327, the District Court, Eastern District, New York, held the owner of a vessel navigated by a compulsory pilot was not liable *in personam* for the acts of the pilot in colliding with a fishing vessel anchored in a channel.

The court also dismissed the common law action against the larger vessel for the damage to the fishing boat which was unlawfully anchored in the channel (33 U. S. C. 409) and which failed to move on the approach of the larger vessel signalling her approach with warning whistle blasts.

On August 9, 1952, at about 9:45 a. m., the plaintiff Frank Mattina was engaged in fishing off Rockaway Point. He had anchored his craft in Ambrose Channel between Buoy 2A and Rockaway Inlet.

The *John W. Mackay* was a cable repair ship. She had sailed from Halifax, N. S. on her way to Rockaway Inlet, and had left Quarantine Anchorage in New York Harbor that morning. Captain Julius H. Seeth, a Sandy Hook pilot was in charge of navigation.

There were numerous fishing craft in the vicinity of the channel and as the *Mackay* proceeded she was forced to repeat almost continuous whistle signals to warn the craft out of her path. Most of the vessels moved clear, except for the Mattina craft. As a result of failing to clear the channel the Mattina craft was struck and damaged.

The Judge found the cable ship free of fault and commented:

> Finally, it must be observed that if any act of negligence was committed, it was not by the captain or his crew. The negligence would be charged to the pilot. As a matter of law, this action being *in personam*, defendant is not liable for any negligence of the New York State pilot, though, as I have observed, I do not find that negligence can be charged even to him. The pilot was in command of the speed and course and the pilot gave the orders. The pilot was acting as required by the law of the State of New York Navigation Law, section 88.

NOTICE

In the September 1955 issue, a NOTICE was carried requesting marine superintendents, ships' masters, and company safety supervisors to ascertain whether the *Proceedings of the Merchant Marine Council* is being properly distributed to shipboard personnel.

While it is believed that the NOTICE did some good, the Coast Guard still receives inquiries from seafarers which would indicate that the distribution is still restricted.

The following is an abstract of a letter recently received at Coast Guard Headquarters which is typical of many received.

*S. S.*_____
March 31, 1956
En route Hong Kong

Commandant
U. S. Coast Guard Headquarters
Washington 25, D. C.
Dear Sir:

It has been with a great deal of interest and enlightenment that I have studied a few copies of your "Proceedings of the Merchant Marine Council." I obtained the copies from the Coast Guard office in San Francisco.

It was only by accident that I became acquainted with the little magazine; but, in my opinion it should be better known for the information would certainly improve the operation of our ships—especially from the standpoint of safety.

I would like to request that my name be put on your mailing list for the magazine. My home address is _____

Sincerely,

*Mr.*_____
*First Assistant S. S.*_____
_____*Company*
San Francisco, California

It is interesting to note that the company referred to in this letter operates some 20 oceangoing vessels and every month 70 copies of the *Proceedings* are mailed to the marine superintendent.

The Editor is of the opinion that a minimum of three copies of each issue should be furnished each seagoing vessel—so that all engineering and deck officers will have an opportunity to read it.

In the event any shipping company desires that additional copies be furnished so that there will be a sufficient number for ship distribution, a letter requesting the desired number of copies should be sent to the Executive Secretary, Merchant Marine Council, U. S. Coast Guard Headquarters, Washington 25, D. C.

APPENDIX

AMENDMENTS TO REGULATIONS

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

Subchapter K—Security of Vessels

[CGFR 56-12]

PART 121—SPECIAL VALIDATION ENDORSEMENT FOR EMERGENCY SERVICE FOR MERCHANT MARINE PERSONNEL

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Executive Order 10173, as amended, Part 121 is amended to read as follows:

Sec.

AUTHORITY: §§ 121.01 to 121.29 issued under 40 Stat. 220, as amended; 50 U. S. C. 191; E. O. 10173, 15 F. R. 7005, 3 CFR, 1950 Supp., E. O. 10277, 16 F. R. 7537, 3 CFR, 1951 Supp., E. O. 10352, 17 F. R. 4607, 3 CFR, 1952 Supp. Interpret or apply: R. S. 4517, as amended, 4518, as amended, sec. 19, 23 Stat. 58, as amended, sec. 2, 23 Stat. 118, as amended, sec. 7, 49 Stat. 1936, as amended; 46 U. S. C. 570, 571, 572, 2, 689.

§ 121.01 *Requirements for special validation endorsement.* (a) Except as otherwise provided in this section no person shall be employed on a merchant vessel of the United States of 100 gross tons or over unless he is in possession of a Merchant Mariner's document bearing a special validation endorsement for emergency service.

(b) The vessels described in paragraph (a) of this section include those at anchor or made fast to a dock, but not those laid up or dismantled or out of commission.

(c) By "employed" and "employment" is meant the engagement of any person to fill any licensed or certificated berth on board ship whether or not under articles and includes those engaged for standby, relief, or other capacities.

(d) The following terms and conditions shall apply with respect to the employment of any person as a replacement or addition in the crew of any vessel described in paragraph (a) of this section at foreign ports when persons in possession of documents bearing a special validation endorsement for emergency service are not available as established to the satisfaction of the United States consular representative of the area:

(1) A person in possession of a United States seaman's document not bearing a special validation endorsement for emergency service may be employed only after approval of the Commandant is obtained by the United States consular representative for the area or by the master of the vessel.

(2) A person who is a United States citizen and who is not in possession of a United States seaman's document may be employed if no person specified in subparagraph (1) of this paragraph is available as established to the satisfaction of the United States consular representative for the area, and then only after approval of the Commandant is obtained by the United States consular representative for the area or by the master of the vessel.

(3) A person who is not a citizen of the United States and who is not in possession of a United States seaman's document may be employed only if no person as specified in subparagraphs (1) and (2) of this paragraph is available as established to the satisfaction of the United States consular representative for the area and then only after the following terms and conditions are met:

(i) No such person shall be employed unless he presents evidence of temporary clearance from the United States consular representative for the area;

(ii) In no case shall the number of such persons employed on any one vessel exceed ten (10) percent of the total complement of the vessel, unless it is established to the satisfaction of the United States consular representative for the area that it is necessary to exceed this percentage to avoid delay to the sailing of the vessel or that the employment of persons with special qualifications as additional crew members is necessary in the vessel's operations; and

(iii) No such person shall be employed to fill the berth of a licensed officer or registered staff officer, except that if no radio officer is available as established to the satisfaction of the United States consular representative for the area, a person may be employed as radio operator in accordance with the provisions of Article 24, section 2, of the International Telecommunications Convention (Atlantic City, 1947), which reads as follows:

2. (1) In the case of complete unavailability of the operator in the course of a sea passage, a flight or a journey, the master or the person responsible for the station may authorize, solely as a temporary measure, an operator holding a certificate issued by the government of

ACCEPTABLE COVERED STEEL ARC WELDING ELECTRODES

The following are additions to the list of electrodes which are acceptable to the United States Coast Guard for use in welded fabrications.

Distributor's and/or manufacturer's	Brand	AWS class	Operating positions and electrode sizes (inch)				
			5/32 and below	3/16	7/32	1/4	5/16
General Electric Co., Schenectady 5, N. Y. (Arcrods Corp. Manufacturer)	W-620D (General Electric Co.).	E6020	-------	2	2	2	3
Air Reduction Sales Co., 42d St., Opposite Grand Central, New York 17, N. Y.	Airco 324 (Air Reduction Sales).	E6020	-------	2	2	2	3

another country member of the Union [Footnote: The Term "Union" means those countries which are parties to the International Telecommunications Convention] to perform the radio communication service.

(2) When it is necessary to employ as a temporary operator a person without a certificate or an operator not holding an adequate certificate, his performance as such must be limited solely to signals of distress, urgency and safety, messages relating thereto, messages relating directly to the safety of life, urgent messages relating to movement of the ship and essential messages relating to the navigation and safe movement of the aircraft. Persons employed in these cases are bound by the provisions of 508 regarding the secrecy of correspondence.

(3) In all cases, such temporary operators must be replaced as soon as possible by operators holding the certificate prescribed in Sec. 1 of this article.

§ 121.03 *Standards.* Information concerning an applicant for special validation endorsement for emergency service, or a holder of such endorsement, which may preclude a determination that his character and habits of life are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, shall relate to the following:

(a) Advocacy of the overthrow or alteration of the Government of the United States by unconstitutional means.

(b) Commission of, or attempts or preparations to commit, an act of espionage, sabotage, sedition or treason, or conspiring with, or aiding or abetting another to commit such an act.

(c) Performing, or attempting to perform, duties or otherwise acting so as to serve the interests of another government to the detriment of the United States.

(d) Deliberate unauthorized disclosure of classified defense information.

(e) Membership in, or affiliation or sympathetic association with, any foreign or domestic organization, association, movement, group, or combination of persons designated by the Attorney General pursuant to Executive Order 10450, as amended.

§ 121.05 *Applications.* (a) Any person legally holding a current valid license or certificate, or an applicant for such a document, may make application at any Coast Guard Marine Inspection Office for a special validation endorsement for emergency service.

(b) Application for special validation endorsement shall be made under oath upon a form prescribed by the Commandant.

(c) Each Marine Inspection Office shall forward promptly to the Commandant each application for a special validation endorsement received by it.

(d) If an application received by the Commandant does not contain replies sufficiently complete in his judgment for a determination whether the character and habits of life of the applicant are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, the Commandant, in an effort to avoid additional proceedings through credible explanation or to confine further inquiry to matters tending to prove or disprove unfavorable information, shall notify the applicant to submit under oath in writing or orally such further information as may be required for such determination.

(e) Upon receipt of a complete application and such further information as the Commandant may have required in those cases where the application, as first submitted, was not deemed sufficient, a committee composed of a representative of the Legal Division of the Merchant Vessel Personnel Division, and of the Intelligence Division, Coast Guard Headquarters shall prepare an analysis of the information available to the Commandant and make recommendations for action by the Commandant.

§ 121.07 *Approval of applicant by Commandant.* (a) If the Commandant is satisfied that the character and habits of life of the applicant are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, he will direct that a special validation endorsement be entered on the applicant's Merchant Mariner's Document.

(b) If the Commandant is not satisfied that the character and habits of life of the applicant are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, he will notify the applicant in writing as provided for in § 121.11.

§ 121.09 *Holders of special validation endorsement.* (a) Whenever the Commandant is not satisfied that the character and habits of life of a holder of a document bearing a special validation endorsement are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, he will request from the holder, under the procedures provided for in § 121.05, replies under oath to such questions as he deems necessary to reach a determination on this issue.

(b) If the holder does not submit complete replies within 30 days after receipt of the request, the Commandant shall revoke and require the surrender of his special validation endorsement.

(c) Upon receipt of complete replies and such other information as the Commandant may have required, within the time allowed, the procedure prescribed in § 121.05 (e) shall be followed.

(d) If the Commandant is satisfied that the character and habits of life of the holder are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, he shall notify the holder accordingly.

(e) If the Commandant is not satisfied that the character and habits of life of the holder are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, he shall notify the holder in writing as provided for in § 121.11.

§ 121.11 *Notice by Commandant.* (a) The notice provided for in §§ 121.07 and 121.09 shall contain a statement of the reasons why the Commandant is not satisfied that the character and habits of life of the applicant or holder are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States. Such notice shall be as specific and detailed as the interests of national security shall permit and shall include pertinent information such as names, dates, and places in such detail as to permit reasonable answer.

(b) The applicant or holder shall have 20 days from the date of receipt of the notice of reasons to file written answer thereto. Such answer may include statements or affidavits by third parties or such other documents or evidence as the applicant or holder deems pertinent to the matters in question.

(c) Upon receipt of such answer the procedure prescribed in § 121.05 (e) shall be followed.

(d) If the Commandant is satisfied that the character and habits of life of the applicant or holder are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, he shall, in the case of an applicant, direct that a special validation endorsement be entered on his Merchant Mariner's Document or, in the case of a holder, notify him accordingly.

(e) If the Commandant is not satisfied that the applicant's or holder's character and habits of life are such

as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, the Commandant shall refer the matter to a Hearing Board for hearing and recommendation in accordance with the provisions of this part.

§ 121.13 *Hearing Boards.* The Commandant may establish a Hearing Board in each Coast Guard District. The Commandant shall designate for each Hearing Board a Chairman, who shall be, so far as practicable, an officer of the Coast Guard. The Commandant shall designate, so far as practicable, a second member from a panel of persons representing labor named by the Secretary of Labor, and a third member from a panel of persons representing management named by the Secretary of Labor.

§ 121.15 *Notice by Hearing Board.* Whenever the Commandant refers a matter to a Hearing Board, the Chairman shall:

(a) Fix the time and place of the hearing;

(b) Inform the applicant or holder of the names of the members of the Hearing Board, their occupations, and the businesses or organizations with which they are affiliated, of his privilege of challenge, and of the time and place of the hearing;

(c) Inform the applicant or holder of his privilege to appear before the Hearing Board in person or by counsel or representative of his choice, and to present testimonial and documentary evidence in his behalf, and to cross-examine any witnesses appearing before the Board; and

(d) Inform the applicant or holder that if within 10 days after receipt of the notice he does not request an opportunity to appear before the Hearing Board, either in person or by counsel or representative, the Hearing Board will proceed without further notice to him.

§ 121.17 *Challenges.* Within five days after receipt of the notice described in § 121.15 the applicant or holder may request disqualification of any member of the Hearing Board on the grounds of personal bias or other cause. The request shall be accompanied by an affidavit setting forth in detail the facts alleged to constitute grounds for disqualification. The affidavit may be supplemented by an oral presentation if desired. If after due consideration the Chairman believes a challenged member is qualified notwithstanding the challenge, he shall notify the person who made the challenge and arrange to proceed with the hearing. If the person who made the challenge takes exception to the ruling of the Chairman, the exception and data relating to the claim of disqualification shall be made a matter of record. If the Chairman finds that there is reasonable ground for disqualification he shall furnish the person who made the challenge with the name of an alternate in lieu of the challenged member and arrange to proceed with the hearing. In the event the Chairman is challenged, he shall forthwith notify the Commandant, furnishing the grounds for the claim of disqualification, and the Commandant shall act upon the challenge in accordance with the foregoing procedure. In addition to the right of challenge for cause, a person who has requested a hearing shall have two peremptory challenges, one challenge for the management member and one challenge for the labor member of the Hearing Board. Should the management member be so challenged, the person who made the challenge may elect to have the management member replaced by another management member or by a member not representing either management or labor; if the member peremptorily challenged represents labor, the person who made the challenge may elect to have the labor member replaced by another labor member or by a member not representing either management or labor.

§ 121.19 *Hearing procedure.* (a) Hearing shall be conducted in an orderly manner and in a serious, business-like atmosphere of dignity and decorum and shall be expedited as much as possible.

(b) The hearing shall be in open or closed session at the option of the applicant or holder.

(c) Testimony before the Hearing Board shall be given under oath or affirmation.

(d) The Chairman of the Hearing Board shall inform the applicant or holder of his right to:

(1) Participate in the hearing;

(2) Be represented by counsel of his choice;

(3) Present witnesses and offer other evidence in his own behalf and in refutation of the reasons set forth in the Notice of the Commandant; and

(4) Cross-examine any witnesses offered in support of such reasons.

(e) Hearings shall be opened by the reading of the Notice of the Commandant and the answer thereto. Any statement and affidavits filed by the applicant or holder may be incorporated in the record by reference.

(f) The Hearing Board may, in its discretion, invite any person to appear at the hearing and testify. However, the Board shall not be bound by the testimony of such witness by reason of having called him and shall have full right to cross-examine the witness. Every effort should be made to produce material witnesses to testify in support of the reasons set forth in the Notice of the Commandant, in order that such witnesses may be confronted and cross-examined by the applicant or holder.

(g) The applicant or holder may introduce such evidence as may be relevant and pertinent. Rules of evidence shall not be binding on the Hearing Board, but reasonable restrictions may be imposed as to the relevancy, competency and materiality of matters considered. If the applicant or holder is, or may be, handicapped by the non-disclosure to him of confidential sources, or by the failure of witnesses to appear, the Hearing Board shall take the fact into consideration.

(h) The applicant or holder or his counsel or representative shall have the right to control the sequence of witnesses called by him.

(i) The Hearing Board shall give due consideration to documentary evidence developed by investigation, including membership cards, petitions bearing the applicant's or holder's signature, books, treatises or articles written by the applicant or holder and testimony by the applicant or holder before duly constituted authority.

(j) Complete verbatim stenographic transcription shall be made of the hearing by qualified reporters and the transcript shall constitute a permanent part of the record. Upon request, the applicant or holder or his counsel or representative shall be furnished, without cost, a copy of the transcript of the hearing.

(k) The Board shall reach its conclusion and base its determination on information presented at the hearing, together with such other information as may have been developed through investigations and inquiries or made available by the applicant or holder.

(l) If the applicant or holder fails, without good cause shown to the satisfaction of the chairman, to appear personally or to be represented before the Hearing Board, the Board shall proceed with consideration of the matter.

(m) The recommendation of the Hearing Board shall be in writing and shall be signed by all members of the Board. The Board shall forward to the Commandant, with its recommendation, a memorandum of reasons in support thereof. Should any member be in disagreement with the majority a dissent should be noted setting forth the reasons therefor. The recommendation of the Board, together with the complete record of the case, shall be sent to the Commandant as expeditiously as possible.

§ 121.21 *Action by Commandant.* (a) If, upon receipt of the Board's recommendation, the Commandant is satisfied that the character and habits of life of the applicant or holder are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, he shall, in the case of an applicant, direct that a special validation endorsement be entered on his Merchant Mariner's Document, or, in the case of a holder, notify him accordingly.

(b) If, upon receipt of the Board's recommendation, the Commandant is not satisfied that the character and habits of life of the applicant or holder are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, the Commandant shall:

(1) In the case of an applicant for special validation endorsement, notify him of the Commandant's refusal to enter such endorsement;

(2) In the case of an applicant for a Merchant Mariner's Document, notify him of the Commandant's refusal to issue such document; or

(3) In the case of a holder, revoke and require the surrender of his special validation endorsement.

(c) Such applicant or holder shall be notified of his right, and shall have 20 days from the receipt of such notice within which, to appeal under this part.

§ 121.23 *Appeals.* (a) The Commandant shall establish at Coast Guard Headquarters, Washington, D. C., an Appeal Board to hear appeals provided for in this part. The Commandant shall designate for the Appeal Board a Chairman, who shall be, so far as practicable, an officer of the Coast Guard. The Commandant shall designate, so far as practicable, a member from a panel of persons representing management nominated by the Secretary of Labor, and a member from a panel of persons representing labor nominated by the Secretary of Labor. The Commandant shall insure that persons designated as Appeal Board members have suitable security clearance. The Chairman of the Appeal Board shall make all arrangements incident to the business of the Appeal Board.

(b) If an applicant or holder appeals to the Appeal Board within 20 days after receipt of notice of his right to appeal under this part, his appeal shall be handled under the same procedure as that specified in § 121.15 and the privilege of challenge may be exercised through the same procedure as that specified in § 121.17.

(c) Appeal Board proceedings shall be conducted in the same manner as that specified in § 121.19.

§ 121.25 *Action by Commandant after appeal.* (a) If, upon receipt of the Appeal Board's recommendation, the Commandant is satisfied that the character and habits of life of the applicant or holder are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, he shall, in the case of an applicant, direct that a special validation endorsement be entered on his Merchant Mariner's Document, or, in the case of a holder, notify him accordingly.

(b) If, upon receipt of the Appeal Board's recommendation, the Commandant is not satisfied that the character and habits of life of the applicant or holder are such as to warrant the belief that his presence on board vessels of the United States would not be inimical to the security of the United States, the Commandant shall notify the applicant or holder that his appeal is denied.

§ 121.27 *Outstanding endorsements and applications.* (a) All special validation endorsements for emergency service entered upon Merchant Mariner's Documents will be accepted as valid until canceled, revoked, or suspended by proper authority.

(b) A person who has filed an application for a Merchant Mariner's Document bearing a special validation endorsement for emergency service and who has not received such an endorsement prior to May 1, 1956, shall submit a new application in accordance with the requirements of this part.

§ 121.29 *Applications previously denied.* A person who has been denied a Merchant Mariner's Document bearing a special validation endorsement for emergency service, before May 1, 1956, may file a new application for such an endorsement in accordance with the requirements of this part.

It is hereby found that compliance with the notice of proposed rule making, public rule making procedures thereon, and effective date requirements of the Administrative Procedure Act is contrary to the public interest since this revision of 33 CFR Part 121 is to implement more effectively Executive Order 10173, as amended, and in the public interest should be placed in operation as soon as possible. This amendatory regulation shall become effective May 1, 1956.

Dated: April 25, 1956.

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

[F. R. Doc. 56-3329; Filed, May 1, 1956; 8:45 a. m.]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

[CGFR 56-14]

PART 78—OPERATIONS

PART 90—GENERAL PROVISIONS

RECORDS OF NUMBER OF PASSENGERS CARRIED AND A DETERMINATION CONCERNING SEAGOING BARGE FOR INSPECTION PURPOSES

The masters of passenger vessels are required by 46 CFR 78.17–50 to maintain records showing the dates when fire and boat drills are conducted, number, and identification of lifeboats swung out at each lifeboat drill, the condition of the vessel and her equipment, and the number of passengers carried. The submission of this information each month on Form CG–941 by the master to the Coast Guard District Commander of the district in which the vessel was last inspected is no longer considered necessary, if the information can be obtained upon request. The present regulations require this information to be recorded in the vessel's official log book with the exception of the number of passengers carried on any particular day or for a particular voyage. To discontinue the submission each month of a report by the master on Form CG–941, 46 CFR 78.17–50 (e) is canceled and the requirements for maintenance of records of the number of passengers carried are transferred to 46 CFR 78.37–10 so that this information will be included in required log book entries. The provisions in 46 CFR 78.17–40 (d) require entries in the official log book relative to each fire and boat drill conducted.

Sections 10, 11, and 12 of the act of May 28, 1908, as amended (38 Stat. 428; 46 U. S. C. 395–397), require the inspection of the hull and equipment of every seagoing barge of 100 gross tons or over. This act did not define a seagoing barge for inspection purposes. Since the determination and classification of a vessel as to whether or not a barge is a seagoing barge is within the administrative discretion of the Coast Guard, the interpretation in a new regulation designated 46 CFR 90.05–25 is published for the information and guidance of all concerned.

Because the amendments to 46 CFR 78.17–50 and 78.37–10 are editorial in nature and abolish a requirement for submission of an administrative form and the new regulation designated 46 CFR 90.05–25 is an interpretation, it is hereby found that compliance with the Administrative Procedure Act respecting notice of proposed rule making, public rule making procedures thereon, and effective date requirements thereof, is unnecessary.

By virtue of the authority vested in me as Commandant, United States Coast Guard, the following amendmeants of this document are prescribed and shall become effective upon the date of publication of this document in the FEDERAL REGISTER.

Section 78.17–50 *Fire and boat drills* is amended by canceling paragraph (e).

Section 78.37–10 is amended to read as follows:

§ 78.37–10 *Official log entries.* (a) In addition to other items required to be entered in the official log book on every vessel where an official log book is required, all items relative to the crew and passengers, including the count of passengers carried, and to casualties shall also be entered.

(b) On any vessel where an official log book is not required, the master shall keep a correct count of all the passengers received and delivered from day to day, which count shall be open to the inspection of the Coast Guard at all times, and the aggregate number of the passengers carried shall be furnished to the Coast Guard as often as called for (R. S. 4467, 46 U. S. C. 460).

Part 90 is amended by adding a new regulation designated § 90.05–25, reading as follows:

§ 90.05–25 *Seagoing barge.* (a) The phrase "of every seagoing barge of 100 gross tons or over" in section 10 of the act of May 28, 1908, as amended (38 Stat. 428; 46 U. S. C. 395), shall include every nonself-propelled vessel (100 gross tons or over) if such vessel by its design and construction is adapted to or fitted for use on the high seas or ocean and will navigate the high seas or ocean or waters directly connected therewith and substantially a part thereof. The phrase "nonself-propelled vessel" means a vessel without sufficient means for self-propulsion and required to be towed. The phrase "high seas or ocean" includes the waters of the Atlantic and Pacific Oceans and the Gulf of Mexico.

(b) If a nonself-propelled vessel (100 gross tons and over), whether or not designed for seagoing or ocean service, proceeds on a voyage to a foreign port via the high seas or ocean, or proceeds on a voyage between two domestic ports via the high seas or ocean, such vessel will be subject to inspection and certification as a seagoing barge.

Dated: April 11, 1956.

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

[F. R. Doc. 56–2992; Filed, Apr. 17, 1956; 8:50 a. m.]

MERCHANT MARINE PERSONNEL STATISTICS

MERCHANT MARINE OFFICER LICENSES ISSUED

QUARTER ENDING 31 MARCH 1956

DECK

Grade	Original	Renewal
Master:		
Ocean	51	538
Coastwise	5	28
Great Lakes	26	152
B. S. & L.	6	85
Rivers	16	67
Radio officer licenses issued	13	70
Chief mate:		
Ocean	42	132
Coastwise		1
Mate:		
Great Lakes	2	
B. S. & L.		5
Rivers	12	6
Second mate:		
Ocean	26	102
Coastwise		
Third mate:		
Ocean	38	87
Coastwise		
Pilots:		
Great Lakes	97	98
B. S. & L.	151	47
Rivers	76	41
Master: Uninspected vessels	8	30
Mate: Uninspected vessels	4	7
Total	576	1496
Grand total	2072	

ENGINEER

Grade	Original	Renewal
STEAM		
Chief engineer:		
Unlimited	88	675
Limited	24	155
First assistant engineer:		
Unlimited	85	250
Limited	2	17
Second assistant engineer:		
Unlimited	92	282
Limited	4	3
Third assistant engineer:		
Unlimited	121	274
Limited	1	8
MOTOR		
Chief engineer:		
Unlimited	26	82
Limited	13	119
MOTOR—continued		
First assistant engineer:		
Unlimited	7	13
Limited	2	10
Second assistant engineer:		
Unlimited	10	9
Limited		1
Third assistant engineer:		
Unlimited	44	8
Limited	3	
Chief engineer: Uninspected vessels	2	8
Assistant engineer: Uninspected Vessels	5	4
Total	529	1918
Grand total	2447	

ORIGINAL SEAMEN'S DOCUMENTS ISSUED

Type of document	Atlantic coast	Gulf coast	Pacific coast	Great Lakes and rivers	Total
Staff officer	41	9	24	4	78
Continuous discharge book		25			25
Merchant mariner's documents	1,090	399	763	1,037	3,289
AB any waters unlimited	101	32	61	36	230
AB any waters, 12 months	37	12	18	69	136
AB Great Lakes, 18 months	5	1	5	39	50
AB tugs and towboats, any waters		6			6
AB bays and sounds			1		1
AB seagoing barges					0
Lifeboatman	61	7	99	11	178
QMED	124	56	38	138	356
Radio operators	1		6		7
Certificate of service	1,095	400	753	959	3,207
Tankerman	23	44	15	73	155
Total	2,578	991	1,783	2,366	7,718

NOTE.—The last 11 categories indicate number of endorsements made on United States merchant mariner's documents.

WAIVER OF MANNING REQUIREMENTS

Waivers	Atlantic coast	Gulf coast	Pacific coast	Great Lakes	Total
Deck officers substituted for higher ratings	1				1
Engineer officers substituted for higher ratings			1		1
O. S. for A. B.					
Wiper or coalpassers for QMED	1				1
Total waivers	2		1		3
Number of vessels	2		1		3

INVESTIGATING UNITS

Merchant Marine Investigating Units and Details investigated a total of 2,747 cases during the first quarter of 1956. From this number, hearings before Examiners resulted involving 58 officers and 225 unlicensed men. In the case of officers, 1 license was revoked, 9 were suspended without probation, 17 were suspended with probation, 10 licenses were voluntarily surrendered, 8 cases were dismissed, and 5 hearings were closed with admonition. Of the unlicensed personnel, 25 documents were revoked, 18 were suspended without probation, 82 were suspended with probation, 82 documents were voluntarily surrendered, 20 hearings were closed with admonition, and 14 cases were dismissed.

NUMBERED AND UNDOCUMENTED VESSELS

The table below gives the cumulative total of undocumented vessels numbered under the provisions of the act of June 7, 1918, as amended (46 U. S. C. 288), in each Coast Guard district by customs ports for the quarter ending 31 March 1956. Generally speaking, undocumented vessels are those machinery-propelled vessels of less than 5 net tons engaged in trade which by reason of tonnage are exempt from documentation. They also include all other vessels propelled in whole or in part by machinery which have not been issued marine documents by the customs, owned in the United States and found on the navigable waters thereof.

Coast Guard District	Customs Port	Total
1 (Boston)	(4) Boston	14,430
	(1) Portland, Maine	9,000
	(2) St. Albans	921
	(5) Providence	4,377
	Total	28,728
2 (St. Louis)	(45) St. Louis	10,088
	(12) Pittsburgh	2,144
	(34) Pembina	100
	(35) Minneapolis	2,296
	(40) Indianapolis	4,832
	(42) Louisville	2,766
	(43) Memphis (part)	5,312
	(46) Omaha (part)	324
	(47) Denver	24
	Total	27,886
3 (New York)	(10) New York	45,127
	(6) Bridgeport	8,795
	(11) Philadelphia	19,279
	Total	73,201
5 (Norfolk)	(14) Norfolk	15,624
	(13) Baltimore	22,495
	(15) Wilmington, N. C	7,871
	Total	45,990
7 (Miami)	(18) Tampa (part)	23,461
	(16) Charleston	1,444
	(17) Savannah	2,235
	(49) San Juan	439
	(51) St. Thomas	108
	Total	27,687
8 (New Orleans)	(20) New Orleans	20,756
	(18) Tampa (part)	564
	(19) Mobile	7,903
	(21) Port Arthur	4,428
	(22) Galveston	8,868
	(23) Laredo	1,503
	(24) El Paso	19
	(43) Memphis (part)	65
	Total	44,106
9 (Cleveland)	(41) Cleveland	8,835
	(7) Ogdensburg	2,741
	(8) Rochester	5,452
	(9) Buffalo	4,010
	(36) Duluth	2,581
	(37) Milwaukee	3,761
	(38) Detroit	20,025
	(39) Chicago	7,457
	Total	54,952
11 (Long Beach)	(27) Los Angeles	11,546
	(25) San Diego	2,175
	(26) Nogales	130
	Total	13,851
12 (San Francisco)	(28) San Francisco	13,715
	Total	13,715
13 (Seattle)	(30) Seattle	19,586
	(29) Portland, Oregon	8,567
	(33) Great Falls	549
	Total	28,702
14 (Honolulu)	(32) Honolulu	3,440
	Total	3,404
17 (Juneau)	(31) Juneau	7,809
	Total	7,809
	Grand total	370,067

EQUIPMENT APPROVED BY THE COMMANDANT

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of ships' stores and supplies certificated from 1 March 1956 to 30 April 1956, 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

Alken-Murray Corp., 131 East 23d St., New York 10, N. Y., Certificate No. 167, dated March 19, 1956, "ALKEN CERTIFIED EVEN-FLO HFS."

Elraco Engineering Co., 14th and Garden Sts., Hoboken, N. J., No. 249, dated March 29, 1956, "ELRACO SAFETY SOLVENT."

New Process Chemical Co., 121 Clay St., San Francisco 11, Calif. Certificate No. 257 dated April 10, 1956, "TRICON TRI-CARB-BURNER TIP CLEANER."

New Process Chemical Co., Certificate No. 258, dated April 10, 1956, "TRICON TRI-CARB-CARBON REMOVER."

New Process Chemical Co., Certificate No. 259 dated April 10, 1956, "TRICON TRI-CARB-FUEL OIL HEATER CLEANER."

FUSIBLE PLUGS

The regulations prescribed in Subpart 162.014, Subchapter Q, Specifications, require that manufacturers submit samples from each heat of fusible plugs for test prior to plugs manufactured from the heat being used on vessels subject to inspection by the Coast Guard. A list of approved heats which have been tested and found acceptable during the period from 16 March 1956 to 15 April 1956 is as follows:

H. B. Sherman Manufacturing Co., Battle Creek, Mich. Heat Nos. 805, 806, 809, 810, 813, and 814.

AFFIDAVITS

The following affidavits were accepted during the period from 15 March 1956 to 15 April 1956:

Clyde Tube Forgings of America, Inc., foot of Southwest Gibbs St., Portland 1, Oreg., FITTINGS and VALVES.

Oregon Brass Works, 1127 Southeast 10th Ave., Portland 14, Oreg., CASTINGS.

U. S. GOVERNMENT PRINTING OFFICE: 1956