



PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL



UNITED STATES COAST GUARD
Vol. 15, No. 11 • November 1958

CG-129

Published monthly at Coast Guard Headquarters, Washington 25, D. C., under the auspices of the Merchant Marine Council, in the interest of safety at sea. Special permission for republication, either in whole or in part, with the exception of copyrighted articles or pictures, is not required provided credit is given to the Proceedings of the Merchant Marine Council. Use of funds for printing this publication has been approved by the Bureau of the Budget October 3, 1957.

The Merchant Marine Council of the United States Coast Guard

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FRONT COVER

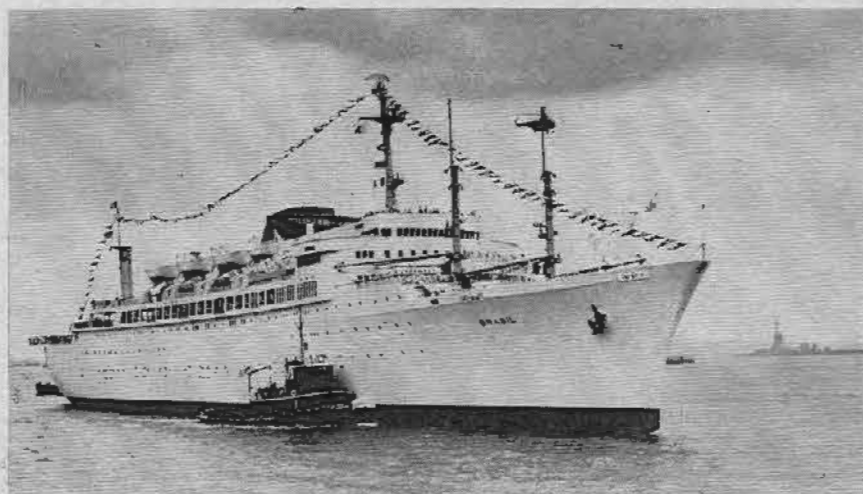
A spectacular midnight photograph taken after the collision of the Swedish freighter *Nebraska* and the American-flag tanker *Empress Bay* under New York's Manhattan bridge. Full details of this and other casualties are discussed on page 199. Photo Courtesy *New York World-Telegram & Sun*.

BACK COVER

This page features a good aerial shot of the newly delivered SS *Atlantic Enterprise*. This ship and the recently launched SS *Atlantic Endeavor* will bring the Atlantic fleet to 22 tankers. Photo Courtesy *The Atlantic Refining Company*.

DISTRIBUTION (SDL 67)

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THE SS BRASIL, one of America's newest cruise ships passes by the Statue of Liberty on her arrival in New York for the first time. Together with her soon-to-be commissioned sister ship the *Argentina*, the 618-foot beauties will carry the Moore-McCormack houseflag between this country and the East Coast of South America. Photo Courtesy Moran Towing and Transportation Co., Inc.

"A REVIEW OF CASUALTIES"

By COMDR. WILLIAM R. SAYER, USCG

(An Address Delivered at the Marine Section, National Safety Council, October 23, 1958)



A GRAPHIC DAYLIGHT picture of the *Empress Bay* under the Manhattan Bridge. Two seamen lost their lives in this collision.

Anyone familiar with Land Surveying knows that in order to project a line or level ahead into the unknown it is standard procedure to set up your instrument and take a backsight. This backsight is a focal point; it may form the base for triangulation; it may be a bench mark for projected levels; it is absolutely indispensable in the extension of any line of sight.

Somewhat similar is the advisability of reviewing the occurrences of the past. On one entrance to the building housing our national archives are chiseled these words—"What is Past is Prologue". With that thought in mind I wish to take a backsight—a brief review of the casualty experience in the maritime field during the past year.

DURING FISCAL 1958 there were but five major casualties requiring the convening of a Marine Board of Investigation. The first—and most serious—occurred on the night of August 27, 1957 when the American freighter SS *Mormacsurf* was downbound in the Río de La Plata, enroute from Rosario to Buenos Aires. The upbound Argentine passenger vessel, *Ciudad De Buenos Aires*, attempted to cross the course of the American ship, was struck on her starboard side at almost a right angle and sank in 23 minutes. We do not

know the number of passengers and crew aboard the Argentine ship; the *Mormacsurf* rescued 78 persons, local craft rescued numerous others, but between 75 and 80 drowned.

No personnel or survivors from the *Ciudad De Buenos Aires* were available for interrogation by the Board and efforts to obtain copies of the record of an investigation conducted by the Argentine authorities were unsuccessful. It was therefore impossible for the Board to determine what caused the passenger vessel to cross the bow of the freighter; similarly

no information was obtainable as to the condition and accessibility of the lifesaving equipment or other facts which might have disclosed why so many lives were lost. Coast Guard Headquarters has since been informed that the Argentine newspaper *La Prensa* quoted survivors as stating that "many passengers and crew who lost their lives could have lived if ordinary and basic precautions had been adopted." "There was not enough lifesaving equipment aboard and such equipment as there was, was not in good working condition."

The Board found that the *Mormac-surf* was not at fault in this collision.

Dredge Sunk

The second major casualty, in chronological order, occurred on September 10, 1957 when the Army Engineers dredge *William T. Russell* sank in Coos Bay, Oregon, after being struck by the outbound Norwegian freighter *Thorshall*. Four men aboard the dredge were lost. The report by the Marine Board of Investigation has been received and is under review at Headquarters. As is customary, the facts found and the final action of the Commandant will appear in the *Proceedings of the Merchant Marine Council*.

The third major casualty happened on October 8, 1957—fortunately without loss of life. The USNS *Mission San Miguel*, a T-2 type tanker, owned by the U. S. Navy, civilian manned, and operated in the Military Sea Transportation Service, was bound from Guam to Seattle, Washington, under USN sailing orders which included positions to be traversed along a track passing through the Hawaiian Archipelago about 23 miles south of Maro Reef. In the evening of October 8 while proceeding at full speed—about 15 knots—weather overcast with rain squalls, the vessel struck this reef. On October 10 all personnel were removed by other Navy ships without injury or loss of life and the vessel—valued at \$2,000,000—was abandoned as a total loss.

The Board concluded that the cause and extent of the casualty were directly attributable to certain errors

by several officers with regard to the navigation of the vessel and an absence of damage control. Appropriate disciplinary action was taken against the licenses held by these officers.

The fourth major casualty hit home. Three Coast Guardsmen were killed on February 12, 1958 during a storm in the Galveston Entrance Channel. Visibility at the time was practically zero and somehow their 40-foot craft on harbor entrance patrol duty came into collision with a barge being towed on a hawser by a Mexican vessel. As these three were the only persons on board, we shall never know exactly how this happened.

The fifth, and last of the major casualties during fiscal 1958, was rather spectacular. Two seamen died and several others were seriously injured when the Swedish freighter *Nebraska* and the small American tanker *Empress Bay* collided under Manhattan Bridge, New York, shortly after midnight on June 25. The fire which enveloped both vessels spread to the bridge. The tanker sank, and raw gasoline seeped to the surface creating a condition which threatened all waterfront installations for miles, including the Brooklyn Navy Yard. One fire boat was damaged through collision while fighting the fire and in the excitement a veteran news photographer dropped dead.

The report of the Marine Board into this case has not been received at Headquarters as yet. The results will eventually appear in the *Proceedings*.

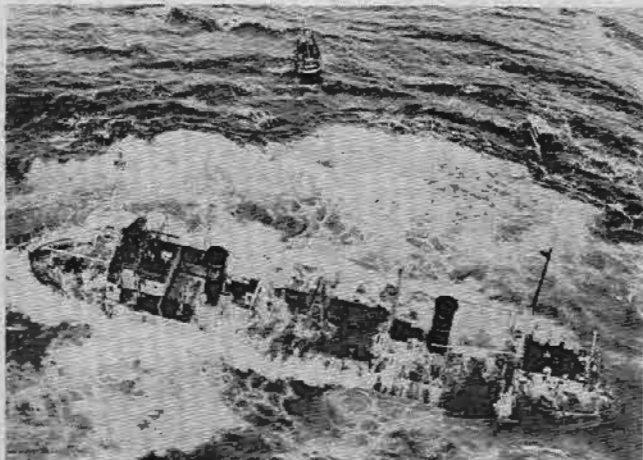
The statistical tabulations for fiscal 1958 on all marine casualties reported

to the Coast Guard will be published in the *Proceedings*. Because of certain changes of method during the past year it will be impossible to make a direct comparison with the figures in prior years. However, there has been no marked change; the number of vessel casualties continues to average about 150 per month, the personnel injury cases about 100 each month while the deaths from all causes will approximate 60 per month. The relationship between these last two averages is not consistent with that generally found and it must be remembered that all deaths, of whatever cause, occurring on the Federal waters, high seas or in foreign ports on board or involving any American vessel—from a rowboat to an ocean liner—are defined as marine casualties and so recorded. This is not true of all personnel injuries; these are not required to be reported unless of sufficient seriousness to incapacitate the victim for over three days.

NO PASSENGER DEATHS

Once again a year has passed in which there were no deaths to passengers on any inspected American ship arising from a casualty to the ship or its equipment. In fact, during the year there were but two accidental deaths among passengers on our inspected vessels; one woman drowned in a swimming pool and a child fell down a ladder not intended for passenger use.

Other transportation industries publish statistics attesting to the safety of their operation. These figures, mentioning millions of pas-



SINKING AFTER COLLISION with the Norwegian freighter *Thorshall*, the Army Corps of Engineers dredge *William T. Russell* is snapped in this on-the-spot photograph near the entrance to the Coos Bay, Oregon, bar. Four men aboard the dredge were lost. Photo Courtesy Ward Robertson.



ONE OF THE MAJOR CASUALTIES last year was the loss and abandonment of the USNS *Mission San Miguel* on Maro Reef in the Hawaiian Archipelago. All personnel were removed without injury or loss of life. Photo Courtesy MSTS Magazine, Department of the Navy.

senger miles, are most impressive. It is presently impossible for the Coast Guard to furnish comparative figures because the classification "inspected vessel" includes not only the ocean-going passenger and freight ships, and the large ferry operations but also the small vessels of all types and sizes—even to cable drawn ferries of primitive construction—which have been inspected and certificated by the Coast Guard and on which no records are maintained as to the number of passengers carried or the miles run.

Since 1950 there have been only four instances when death of a passenger resulted from a casualty to an inspected vessel operating under the United States flag. This experience is a record which, in itself, is a commendation of the American maritime industry for providing the safest means of transportation ever devised since the ox cart.

At Coast Guard Headquarters those directly concerned with the review of marine casualties have great expectations of a new code system of accident classification, based upon the frequency experienced during the past five years. We believe it will furnish, with substantial accuracy, not only the statistical summations according to vessel class and service, waters, type of casualty, etc., but will also more specifically point up the causes of the accidents. The system is an adaptation of the American Standards Association code, with variations designed to illuminate the unique facets of the marine safety problem. In July we concluded our first full year of injury case coding under this system. It is expected that the results will be published in the *Proceedings* as these tabulations are completed. Certain facts which emerged during pilot run periods, when compared with statistical information from other sources—principally insurance companies—coincide to an encouraging degree.

RECREATIONAL BOATING

In the pleasure boating field the number of fatal accidents has risen slightly from last year. Of the 375 boating deaths reported to, and investigated by, the Coast Guard, 170 (over 45 percent), resulted from capsizing. Of that number 123 drowned in the capsizing of outboard powered boats. For those interested in the grim statistics, a summation indicating the various causes of fatal accidents during recreational boating will be in the next issue of the *Proceedings*.

Although criminal recklessness is indicated as the primary cause in only two recreational boating casualties, there were 41 cases referred to the Department of Justice during the past

year because of information obtained through investigations. In my opinion it would not be cruel and unusual punishment to compel those convicted of reckless operation of a boat to view the horribly mangled remains of a person chewed up by the propeller of a boat. We recently received close-up photographs of a skier who was killed this way and I have personally investigated several such accidents. The last was of a young bride who fell asleep on the foredeck of a high-powered runabout which was towing her husband on skis. No one noticed that she had rolled overboard until the motor stalled with her leg wrapped around the propeller and shaft.

The primary purpose of casualty review is to assure as thorough an investigation as the circumstances would permit in order to see that all possible preventive or remedial action is taken. The secondary phase of the casualty review operation is the tabulation of accident statistics. More important than furnishing a background of facts for the promulgation of regulations, is the discovery of areas wherein there has been an increase of occurrences. This directs attention to the causes and compels effort toward their elimination.

HUMAN FAULT

One thing consistent in all statistics is that accidents caused by material failure are becoming increasingly rare; almost as rare as the "inevitable accident" or "act of God." Human fault, with varying degrees of culpability, is by far the cause of most casualties. In some cases the victim's only fault was his inexperience, but someone failed to instruct him in safe working methods. Young men, with but a few days or weeks on the job, are the most frequent victims in these circumstances. They are inclined to take chances; at that age the idea is strong that "it can't happen to me." It is a sad commentary that, of all young men who die in America between the ages of 15 and 25, over 65 percent are killed in accidents. With maturity there comes a reduction in the percentage of accidental deaths, but it is still a fact that until a man reaches 45 he's more apt to die from somebody's mistake than from any other single cause. To that age human error is more malignant than cancer or cardiac.

With this premise, we can agree that the vast field for accident prevention is in the mind. There will always be some of every age who can only be impressed through the seat of their pants—and that action should receive public support. But most accidents are caused by well intentioned

people. Occasionally, through inexperience, they do not recognize the danger, but that can be corrected by education. However, education does not appear to be the complete answer. We have many reports in which the person responsible knew of the danger. A friend of mine, above average in intelligence, knew full well that gasoline vapors are explosive, but that knowledge did not stop her from using gasoline to clean draperies in her kitchen, completely forgetting the pilot light on her range. Every tankerman knows the danger of entering an unventilated tank, but each year experienced men die that way.

HERE ARE A FEW CASES IN POINT

- Fishermen, on a cold night, tightly closed all doors and port holes, leaving a coal stove burning while they slept.

- An amateur racing enthusiast with a hydroplane obtained more RPMs with a smaller propeller, but the flywheel disintegrated.

- A shipyard worker used a burning torch on a non-gas-free tank.

- A deck hand on a fast tug tried to dip water from over the side with a bucket on a line. The line tangled on his foot.

- A group of men were working in a compartment. Some attempted to move a large CO₂ bottle without unhooking it from the line. They accidentally tripped the release lever. Then it was every man for himself.

- Someone forgot to lock a hatch beam in position.

- Rather than go around material piled on deck, a longshoreman tried to walk on the coaming of the open hatch.

- An early morning sport fisherman took a chance running his boat without lights. In the collision he was NOT the man who was killed.

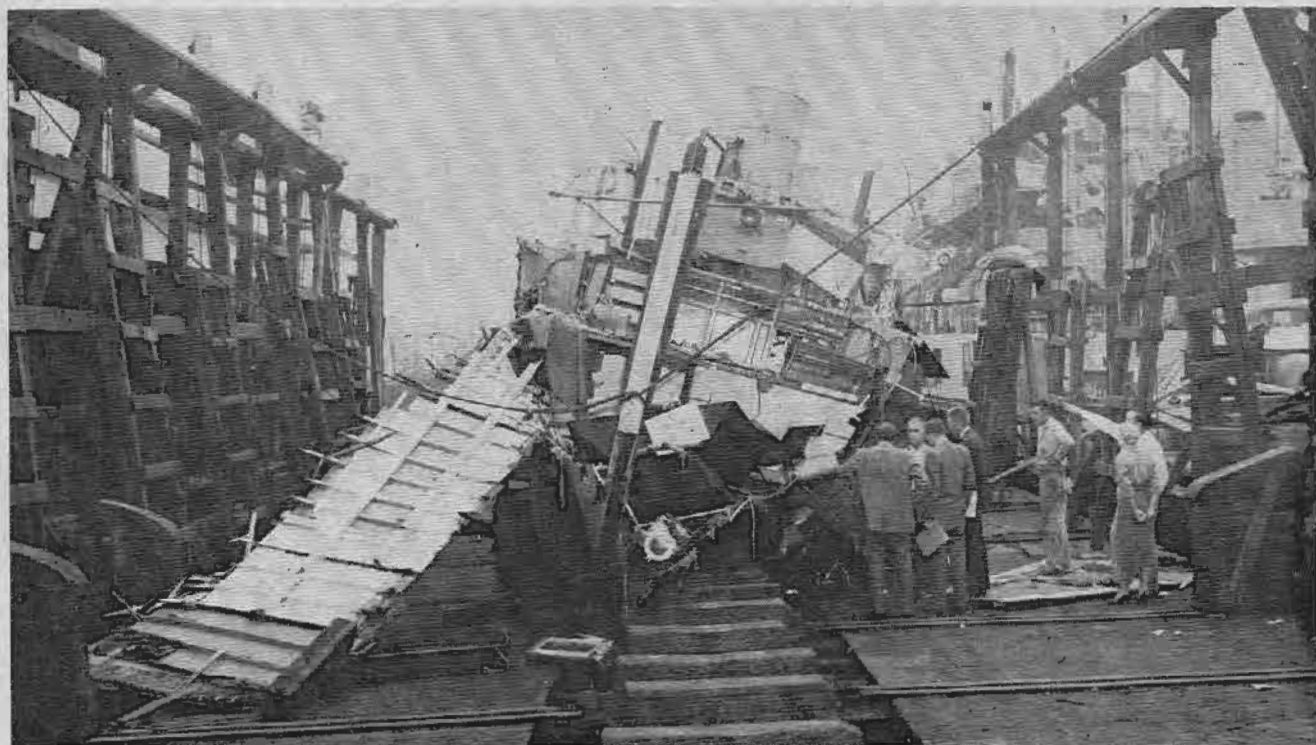
- Skin diving unaccompanied.

- He thought the gun was empty after they finished duck hunting.

In each of these instances there was no lack of knowledge as to the potential danger—just an absence of care, of foresight, of thinking.

Scientists tell us that the average human uses only a part of his brain power. Accident prevention is now aimed at making people think. Signs and slogans, campaigns and cartoons are all designed to drive into the conscious and the subconscious the seeds of safety mindedness; to be so conditioned mentally that danger is recognized automatically, just as we automatically stop at the curb before attempting to walk across a busy street. The development of this safety impulse may hold the greatest promise for the future.

L. P. G.—LETHAL POTENTIAL GREAT



LIQUEFIED Petroleum Gases aboard vessels provide many comforts and services. But, used improperly and without due regard for their hazardous potential, they can be dynamite!

Last winter in California an uninspected 69-foot yacht was nearly destroyed and three persons aboard suffered injury when a liquefied petroleum gas installation used for cooking and for heating water exploded. Damage to the boat was estimated to be \$125,000.

The casualty occurred while the vessel was in a boat yard undergoing hull work when a repair man carelessly left a gas line open over night after removing a regulating valve for servicing. Gas escaped into the vessel and when an attempt to light off the galley range was made the next morning, the gas ignited and shattered the boat.

CAUTIONS

Personnel on all vessels with liquefied petroleum gas installations on board are cautioned to use extreme care in servicing this equipment to prevent any leaks of this volatile gas. When an outside contractor does the servicing, a member of the crew should inspect the work to make sure all joints are left tight. Coast Guard regulations require that all LP gas cylinders on inspected vessels have a

manually operated screw down shut-off valve fitted with a hand wheel installed directly at the cylinder outlet. These regulations also require odorization of the gas so that its presence may be readily detected, and secondly, that spaces containing the gas consuming appliances be adequately ventilated.

LP gas may be used for cooking and heating on all vessels subject to inspection by the Coast Guard except passenger vessels.

What is L. P. G.? Bottled gas or liquefied petroleum gas is produced from natural gas or emerges as a by-product of petroleum refining. Essentially it consists of propane, butane, or propane-butane mixtures, which are easily liquefiable hydrocarbons under atmospheric temperatures at variable pressures dependent upon the gas mixture. However, the most common commercial form of propane does not exceed 215 p. s. i. at 100° F.

In other words, these liquefied gases have all the favorable characteristics of gases as far as utilization is concerned, and they are also capable of being greatly concentrated by liquefaction, for storage and transportation purposes, hence their desirability for heating, cooking, and many other purposes, domestic and commercial.

Modern steel gas storage cylinders or flasks now available on the market weigh approximately 1 lb. per lb. of LP gas contained. The actual cost of B. T. U.'s produced from LP gas, that is the heating value of the fuel, compares favorably with electricity, and city or natural gas.

Consequently LP gas is becoming a favorite fuel for use aboard ships and smaller craft for heating and cooking. However, there is strong evidence to indicate its use is increasing much faster than is the appreciation of its inherent dangers. Like certain other heavier-than-air gases, LP gas has the characteristic of settling when released, drifting and finding its way into the lowest pockets or spaces in the vessel. When mixed with air it forms a highly explosive mixture which ignites as readily as a gasoline-air mixture and with as disastrous results.

Since LP gas is generally colorless, the best method of detection of a leak is by odor. As released from the pressurized liquid, the gas, if not odorized by an additive, would have an odor similar to gasoline but not very strong.

On a small vessel using gasoline or diesel oil for fuel, personnel would have difficulty differentiating the odor of escaping LP gas from odors existing on the vessel from other fuels.

This is especially true in the case of gasoline for it has been demonstrated that one good whiff of gasoline may have a slight anesthetizing effect on the olfactory nerves, or sense of smell, for a few moments. Therefore, as in the case of most city gases, a slightly repugnant odorant is added to the LP gas to make its detection by smell much easier. Today practically all LP gas is odorized with ethyl mercaptan or some other commercial odorant such as CALODORANT. However, it would be extremely wise, in ordering LP gas for any purpose aboard ship or boat to specify odorized gas.

It will be seen that the only feasible place for the storage of LP gas aboard a vessel with safety is at a point outside the cabin or superstructure and not within the hull. A point where possible leakage will be quickly disseminated in the open air, or blown away by the wind, without entering the vessel's hull is suitable. On Coast Guard-inspected merchant vessels, LP gas storage cylinders are required to be located in a substantial metal enclosure on or above the weather deck. This enclosure must be provided with top and bottom ventilation.

LP gas cylinders used aboard inspected vessels must be constructed, tested, fitted with a safety relief valve, and marked in accordance with Interstate Commerce Commission Specifications. By ICC regulations, these cylinders are periodically tested with hydrostatic pressure and marked with the test date.

For the user of LP gas aboard small craft, it would be well to ascertain that the containers have been constructed and tested periodically as required by the ICC rules.

The rule for odorization aboard inspected vessels is that all LP gas used shall be effectively odorized by an agent of such character as to indicate positively, by a distinctive odor, the presence of gas down to concentration in air of not over one-fifth the lower limit of combustibility, or for most LP gases, a volumetric percent of gas to air of not over 0.31 percent.

One of the most important considerations for any LP gas system, and particularly for any marine installation, is that the system be tight from the cylinder to the burner jets. On inspected vessels an annual leak test of the system from regulator to jet is required. Using not less than the working pressure of the system, or say about $\frac{1}{2}$ p. s. i., using a water column or a pressure gage, this pressure must hold constant with the supply valve and the burner valve closed.

A test for leaks is also made with a soap solution or low freezing point liquid, but never with a flame. The same sort of test is recommended by the Coast Guard and by the National Fire Protection Association for any uninspected vessel using an LPG system and particularly for motorboats. In obtaining any LPG equipment, all component parts of systems other than cylinders should be listed by Underwriters' Laboratories, Inc., or other recognized testing laboratory, such as the American Gas Association, of Cleveland, Ohio, and so labeled. There should be no pilot light or other continuous flame devices as the inherent danger of the flow of gas into the vessel if the flame is extinguished is quite obvious.

On small craft there should be two signs posted with the manufacturer's operating instructions and including the following:

CAUTION

1. Keep cylinder valves closed when boat is unattended. Close them immediately in an emergency.

2. Be sure all appliance valves are closed before opening cylinder valve.

3. Always apply match or flame to burner and then open burner valve.

4. Close master valve whenever consuming appliance is not in use.

5. Test system for leakage at least biweekly and after any emergency as follows: With appliance valve closed, master and one cylinder valve open, note gage pressure. Close cylinder valve. The pressure should remain constant for at least 10 minutes. If pressure drops, locate leakage by application of soapy water at connections. Never use flame to check for leaks.

Only systems introducing fuel below deck in gaseous form should be used, as the system introducing fuel below deck in liquid form is considered to be by far the more hazardous. Each cylinder should have a stop valve directly on the cylinder outlet. In multi-cylinder systems a stop valve should be provided in each line from the cylinder to the regulator or manifold in addition to the valves required at the cylinder.

All systems should have a pressure gage. A low-pressure relief should be integral with the regulator and vented overboard, otherwise a relief valve should be in the low pressure line and a vent in the chamber which may use a common overboard outlet. The discharge from the low-pressure reliefs should be led preferably to the stern, or if not feasible, to a point at least two feet distant from any part of an opening to the interior of the boat or from a motor exhaust which is below the level of such discharge. Outlet ends should be turned down to prevent choking the line with water.

All LPG piping or tubing should be of as short runs inside the cabin as possible and have adequate flexibility. It should be exposed to sight but protected from mechanical injury. Lines should be continuous lengths of piping or tubing from regulator to shut-off at stove manifold. On small vessels subject to rolling and pitching open flames from LPG system should be particularly watched so that they are not snuffed out by spills, boil-overs, gusts of wind, etc., as the gas will then flow freely and settle in the bilges. An automatic device to shut off gas supply in case flame is extinguished should be fitted to oven burners or any other burners not directly exposed to view, and is recommended for all burners when practicable.

Most storage cylinders with relief valves installed in accordance with ICC regulations are set to start to relieve at 90% of the designed working pressure of the cylinder. Since the pressure of the gas confined in a tight container will increase approximately in direct proportion to an increase of the temperature of the liquid, it will be seen that a nearly full cylinder will not require much external heating, from such sources as the sun, engine exhaust, etc., to cause the relief valve to open. In this event, having the cylinder stored on an open deck will pay off, as there will be a greater opportunity for the escaping gas to disappear in the open air and not seek out the bilges.

In summation, if you have or are going to have a Liquefied Petroleum Gas system on your vessel: (1) Make sure all the connections are tight. (2) Guard against release of the gas inside the vessel. (3) Store your tank in the open. (4) Close all valves when system is not in use. (5) Buy equipment furnished by reliable suppliers and approved by recognized testing laboratories. Make sure your LPG means **LITTLE POSSIBILITY OF GRIEF.**

NEW REQUIREMENTS IMPROVE RESISTANCE TO GAS AND OIL

COAST GUARD approved life preservers as we know them today, are the result of over 100 years' development. Since August 30, 1852, when it became mandatory that steamboats carrying passengers be provided with a life preserver for each passenger aboard, new designs have continually been evolved by experts and amateurs alike seeking to perfect this basic lifesaving appliance.

As part of this continuing development, the Coast Guard, as well as other regulatory agencies in other countries, completed a series of test programs to determine the effects of gasoline and oil on various approved type life preservers under various conditions likely to be encountered in service.

In the Spring of 1957 the Danish Ministry of Shipping announced a ban on the use of kapok in life preservers because their tests showed that contact with high concentration of gasoline or light oil could, under certain conditions, cause rapid and serious losses of buoyancy in such jackets.

Shortly thereafter, a series of articles, editorials, and other news releases on the subject appeared in both American and foreign newspapers and periodicals; and in some quarters there was a demand for a complete ban on the use of kapok jackets on an international level.

Tests conducted by the Coast Guard showed the situation was not nearly as bad as depicted in some articles, but the tests did show that under certain circumstances gasoline and light oil films on the water do have a detrimental effect on the buoyancy of life preservers containing unprotected kapok or fibrous glass. The tests also showed that encasing kapok or fibrous glass in an electronically sealed bag of vinyl plastic film provides adequate protection from gasoline and oil, even though the plastic film covering may contain numerous holes as a result of snags or punctures. Cork and balsa wood life preservers and those filled with polyvinyl chloride plastic foam of the type specified by Coast Guard Specifications 160.049 and 160.052 for plastic buoyant cushions and buoyant vests for use on pleasure motorboats showed little or no effect from exposure to gasoline and oil.

Since 1955, protective covers of vinyl plastic film have been required for the buoyant material in all kapok or fibrous glass buoyant cushions and buoyant vests approved for use on pleasure motorboats, and all approved



COAST GUARD APPROVED life preservers manufactured since September 24, 1958, must have the kapok or fibrous glass filler fitted in a plastic envelope. The top part of this photograph illustrates a complete Model 3 life preserver, and the bottom part shows the plastic encased pads prior to insertion. Previously approved life preservers may be placed in service and/or continued in service as long as in good and serviceable condition.

vests and cushions made since that date under Coast Guard Specifications 160.047 and 160.048 have such gasoline and oil resistant buoyant inserts. Coast Guard Specifications 160.002 and 160.005 covering kapok and fibrous glass type life preservers for general use on merchant vessels and motorboats have for a number of years contained requirements for models both with and without the plastic pad covers, but production of these life preservers has for the most part been confined to those models without such pad covers.

Because of the very high initial buoyancy of these jackets, which is approximately double the amount required in normal use, and of the special conditions necessary to bring about substantial losses in this buoyancy, it is not felt at this time that there is sufficient cause to require replacement of jackets of this type which may be in service and do not have the plastic covered buoyant inserts. However, to minimize the possibility of casualties in the future due to effects of gasoline or oil on kapok or fibrous glass filled life preservers, Coast Guard Specifications 160.002 and 160.005 for such life preservers

have been amended to delete the requirements for Models 2 and 6 kapok jackets and Models 51 and 55 fibrous glass jackets which do not have the protective plastic bags and to limit all further production of these types of life preservers to Models 3 and 5 kapok and Models 52 and 56 fibrous glass which are fitted with the protective bags.

These amendments were published in the Federal Register of June 25, 1958, and the new construction requirements became effective September 24, 1958. The approvals for all kapok and fibrous glass life preservers without the vinyl bags were also withdrawn on the same date, and manufacturers of such equipment are currently changing over or have already changed over their production to meet the revised specifications.

The life preservers with vinyl covered inserts should soon be available in quantity but to facilitate orderly and economical replacement of existing kapok and fibrous glass life preservers, a provision was included in the withdrawal order to permit existing life preservers without vinyl bags to be continued in use so long as in good and serviceable condition.



MARITIME SIDELIGHTS

The Merchant Marine Council will hold a public hearing on Tuesday, December 9, 1958, at Washington, D. C. This hearing is for the purpose of receiving comments, views, and data on the proposed standards and regulations to implement the Federal Boating Act of 1958 recently signed into law.



Research into shipboard organization and activities aboard a typical oceangoing freighter will be made by the Southwest Research Institute of San Antonio, Texas, under a contract with the Maritime Administration, it was announced. The four-part research project to be performed aboard modern freighters will be concerned with the major shipboard activities—(1) watch standing, (2) maintenance and underway repair, (3) subsistence and lodging services, and (4) general operations.



First section of the 695-foot keel of a new Sun Oil Company supertanker was laid Sept. 15 at the Chester, Pa., yards of the Sun Shipbuilding & Dry Dock Company. Largest ship ever to be built at Sun Ship, the new vessel will be 47,750 dwt. The tanker will be 745 feet long and will have a cargo capacity of approximately 372,300 barrels of petroleum. It is expected that she will be completed late next year or in early 1960. It is estimated that her cost, when completed, will be approximately \$13,000,000.



Isthmian Lines had a two-way tie for first place in the first half of its fleet safety contest ending June 30. Both ships, the SS *Steel Chemist* and the SS *Steel Traveler*, have gone the distance with accident-free records.



Richard P. Godwin, Nuclear Projects Officer, Maritime Administration, told the American Association of Port Authorities meeting in Honolulu that it will not be necessary for ports to



IN A JOINT CEREMONY aboard his ship in New York, Captain Paul R. Jones, Jr., was honored by the National Safety Council, the American Merchant Marine Institute, and the Maritime Administration for his part in rescuing 13 seamen from the sinking tuna clipper *Sun Pacific* off the coast of the Gulf of California last year. Captain Jones of the United Fruit vessel *Limon*, received a citation of merit from Rear Admiral H. C. Perkins, Commander of the Third Coast Guard District, at the left, on behalf of the NSC and the AMMI, and a letter of commendation from Captain Hewlett R. Bishop, extreme right, on behalf of the Maritime Administrator Clarence G. Morse. Photo Courtesy United Fruit Company.

change their way of operating or to provide special equipment for the handling of nuclear powered commercial ships.



The Maritime Administration has accepted a \$2,666,680 bid of the Bethlehem Steel Co. for 35 ships to be scrapped from the reserve fleets. The ships will be drawn from the Hudson River, James River, and Mobile Reserves.



States Marine Lines has named Captain Thomas C. Price to command NS *Savannah* under construction as

the world's first nuclear powered merchant vessel. He has sailed as Master for the line for 14 years and has been Director of Safety and Training since 1954.



Fifteen recently delivered covered cargo barges for Mississippi Valley Line Company have a "safety strip" running the entire length of the hatch cover peaks. The idea has been credited to Captain E. P. Duckles of the towboat *New Orleans*, who commented: "A man walking along these hatch covers at night would notice a break in the white line and, therefore, be warned of an open hatch." A good idea.

COMMENDATION



CAPTAIN E. A. MCGOWEN of the SS *E. H. Blum* is pictured receiving a Letter of Commendation signed by the Commandant of the Coast Guard for his part in an open sea rescue off the coast of Florida last March. Left to right, are: Captain McGowen, Captain H. M. Elder, Atlantic Port Captain; Commander D. G. Elliott of the Coast Guard's Philadelphia Marine Inspection Office, and Captain C. C. Shute, Superintendent, Operating Section, Atlantic Refining Co. The commendation is reproduced below.

CAPTAIN E. A. MCGOWEN,
SS *E. H. Blum*, c/o Atlantic Refining Co.,
260 S. Broad St., Philadelphia, Pa.

DEAR CAPTAIN MCGOWEN:

The U. S. Coast Guard, as the principal agency of the United States concerned with the safety of life and property at sea, takes pleasure in this opportunity to commend you, as Master of the SS *E. H. Blum*, for the determination and efficiency which the personnel of your ship displayed in connection with the crash of a private airplane with six persons aboard, on March 25, 1958 off the Florida coast.

An official report of the incident reveals that at about 6:30 p. m. CST on March 25, 1958 the SS *E. H. Blum* was en route from Newark, N. J. to Port Arthur, Texas, when a small private plane about 2½ miles east of Hollywood Beach, Florida, was seen to crash off the port beam. Emergency signals were sounded, the course altered toward the scene and, as the plane was approached a lifeboat which had meanwhile been prepared, was lowered. Nearing the scene the plane was illuminated by the ship's searchlight and voices could be heard but then the plane sank beneath the surface. A man, in a state of shock, treading water and holding a dead baby was first recovered. The bodies of two women and a boy were next found but strenuous efforts at resuscitation were fruitless. Meanwhile the *E. H. Blum* had established radar contact which brought a Coast Guard plane and a local fishing vessel to the scene, the latter recovering one body en route. The sole survivor together with the bodies of the deceased were then transferred to the fishing vessel for expeditious conveyance to shore.

The prompt and effective response by the *E. H. Blum* in this emergency reflected the highest credit on the state of readiness of her officers and crew under your command.

Sincerely yours,

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

MERCHANT MARINE STATISTICS

There were 929 vessels of 1,000 gross tons and over in the active oceangoing United States merchant fleet on September 1, 1958, according to information released by the Maritime Administration. This was 12 less than the number active on August 1, 1958.

There were 30 Government-owned and 899 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.

There was a decrease of 10 active vessels and an increase of 12 inactive vessels in the privately owned fleet. Two new tankers, the *Atlas* and the *Gulfnight* were delivered into service and 1 freighter, the *Valiant Freedom*, was returned from foreign to United States flag. The tanker *Gulfsport* was sold for scrap. This increased the total privately owned fleet by a net of 2 to 1,003.

Of the 104 privately owned inactive vessels, 32 dry cargo ships and 39 tankers were laid up for lack of employment, 14 more than on August 1. Most of the others were undergoing repair or conversion.

The Maritime Administration's active fleet decreased by 2, while its inactive fleet increased by 4. Three freighters, the *Wm. P. Fessenden*, *Millen Griffith* and the *Benjamin Holt*, and the tanker *St. James*, were sold for scrap. Six transports, the *Bronx*, *Menifee*, *Mifflin*, *Gen. S. D. Sturgis*, *Clinton*, and *Natrona*, and the tug *Bagaduce*, owned by the Navy, were turned over to the Administration. This increased the Government fleet by 2 to a total of 2,123. The total merchant fleet, active and inactive, increased by 4 to 3,126 on Sept. 1, 1958.

No new ships were ordered but 1 large tanker for Manhattan Tankers Co. was rescheduled. Two new tankers, the *Gulfnight* and the *Atlas*, were delivered for United States-flag, and two were delivered for foreign flag, the *Olympic Eagle* and *G. S. Livanos*. Two converted tankers were also delivered. The total of large merchant ships on order or under construction in United States shipyards dropped by five vessels to 99.

Seafaring jobs on active oceangoing United States-flag ships of 1,000 gross tons and over, excluding civilian seamen manning Military Sea Transportation Service ships were 54,322. Prospective officers in training in Federal and State nautical schools numbered 1,928.



nautical queries

Q. Your vessel is on course 050° True at a speed of 9 knots.

At 0400 a vessel is observed on the PPI scope bearing 020° True at a range of 10 miles.

At 0406, the vessel is observed bearing 022° True at a range of 8 miles.

(a) Assuming that both your vessel and the vessel observed maintain course and speed, determine the distance between your vessel and the vessel observed at their closest point of approach.

(b) Determine the course and speed of the vessel observed.

(c) Determine the course at 0412, which will clear the other vessel by 2 miles in the minimum length of time without changing your speed.

A. (a) The distance between your vessel and the vessel observed, at their closest point of approach, assuming that course and speed were held, would be 1.4 miles (at 0429).

(b) The course of the vessel observed is 169.3° True.

The speed of the vessel observed is 14.3 knots.

(c) The course at 0412, which will clear the other vessel by two miles, in the minimum length of time, without change in your speed, is 032.8° True. (Neglecting advance and transfer.)

Q. Your vessel is on course 230° True at a speed of 12 knots.

At 0600 a vessel is observed on the PPI scope bearing 250° True at a range of 10 miles.

At 0606 the vessel is observed bearing 255° True at a range of 7 miles.

(a) Assuming that both your vessel and the vessel observed maintain course and speed, determine the distance between your vessel and the vessel observed at their closest point of approach.

(b) Determine the course and speed of the vessel observed.

(c) If you stopped your vessel at 0609, what would be the distance at closest point of approach between vessels, assuming the other vessel held course and speed?

A. (a) The distance between your vessel and the vessel observed at the closest point of approach, assuming that course and speed were held, would be 2 miles at 0619.

(b) The course of the vessel observed is 064° True.

The speed of the vessel observed is 19.1 knots.

(c) If you stopped your vessel at 0609, the distance between vessels would be 1.6 miles (0625), assuming that the vessel observed held course and speed.

A CASE OF DOUBLE JEOPARDY

Your vessel is on course 340° true at a speed of 5 knots.

At 0800 a vessel is observed bearing 080° true at a range of 10 miles.

At 0805 the vessel is observed bearing 080° true at a range of 9.33 miles.

At 0810 the vessel is observed bearing 080° true at a range of 8.67 miles.

(a) What would be the effect of altering your course to 000° (North)?

Altering course to 000° would not eliminate the danger of collision. The direction of relative (pip) motion remains the same. Only the relative speed, the rate at which the pip approaches the center of the scope, is altered.

Q. Your vessel is on course 315° True at a speed of 10 knots.

At 1100 a vessel is observed on the PPI scope bearing 343° True at a range of 9 miles.

At 1112 the vessel is observed bearing 340° True at a range of 7 miles.

(a) Assuming that both your vessel and the vessel observed maintain course and speed, determine the distance between your vessel and the vessel observed at their closest point of approach.

(b) Determine the course and speed of the vessel observed.

(c) Determine the course at 1112 which will clear the other vessel by 2 miles in the minimum length of time without changing your speed.

A. (a) The distance between your vessel and the vessel observed at the closest point of approach, assuming that course and speed were maintained, would be 1.6 miles (at 1152).

(b) The course of the vessel observed is 242.5° True.

The speed of the vessel observed is 6.6 knots.

(c) 319.6°.

Q. Your vessel is on a course of 260° True at a speed of 9 knots.

At 1600 a vessel is observed on the PPI scope bearing 230° True at a range of 7 miles.

At 1606 the vessel is observed bearing 233° True at a range of 5 miles.

(a) Assuming that both your vessel and the vessel observed maintain course and speed, determine the distance between your vessel and the vessel observed at their closest point of approach.

(b) Determine the course and speed of the vessel observed.

(c) Determine the course at 1609 which will clear the other vessel by 2 miles in the minimum length of time without changing your speed.

A. (a) The distance between your vessel and the vessel observed at the closest point of approach, assuming that course and speed were maintained, would be 0.84 miles (at 1621).

(b) The course of the vessel observed is 020.0°.

The speed of the vessel observed is 14.2 knots.

(c) 214.0°.

Q. Your vessel is on course 310° True at a speed of 10 knots.

At 1400 a vessel is observed on the PPI scope bearing 330° True at a range of 10 miles.

At 1420 the vessel is observed bearing 333° True at a range of 7 miles.

(a) Assuming that both your vessel and the vessel observed maintain course and speed, determine the distance between your vessel and the vessel observed at their closest point of approach.

(b) Determine the course and speed of the vessel observed.

(c) Determine the course at 1430 which will clear the other vessel by 2 miles without changing your speed in the minimum length of time.

A. (a) The distance between your vessel and the vessel observed at the closest point of approach, assuming that course and speed were maintained, would be 1.3 miles (at 1505).

(b) The course of the vessel observed is 246.3° True.

The speed of the vessel observed is 2.3 knots.

(c) 344.4°.

THREE BARGES

By LT. COMDR. ROBERT I. PRICE, USCG

1935—a group of tank barges were completed and placed in service. The vessels are the open hopper type but without longitudinal wing bulkheads, 175' x 35' x 11' with 6 independent tanks 15' diameter x 45' long installed in pairs between transverse watertight bulkheads. Bottom plating is $\frac{5}{16}$ " transversely framed on 27" centers by 15" x 40# channels. Side plating is $\frac{3}{8}$ ".

1949—a clear, quiet day in June on the Illinois Waterway. A hopper type tank barge is just about unloaded. To strip the tanks aft, water is pumped into the stern rake compartment. Next day, to level the barge and establish the necessary bridge clearance, water is pumped into the forward rake. It is then intended to add water to the tanks as ballast, but before this can be done, the barge breaks at a point 4 feet aft of the forward pair of tanks. (See Figure 1.)

1953—Jeffersonville, Indiana—a cargo of Bunker C fuel oil is being unloaded from an unmanned tank barge. The forward and middle tanks are now empty and the after tanks half empty, when the barge buckles amidships. The sides are bowed in-board and the holding-down straps on the middle independent tanks are snapped. On investigation:

"Q. Did you check the cargo in the tanks and the water in the rakes before pumping it?

A. We took the sounding of the tanks but didn't check the rakes. The barge was riding high and the rakes so small that I don't think a small amount of water would affect it."

The water in the rakes was estimated at 4 feet each. The weights corresponding to these soundings are 15 tons forward, 10 tons aft. (Figure 2.)

1958—January on the Mississippi. Baton Rouge, La. The barge moored at a process plant has unloaded one-third of its cargo of caustic soda. The center tanks are now empty. Without warning, the barge buckles in the center compartment, just aft of the forward bulkhead. (Figure 3.)

The connection between these events?—All three were barges built to the same design in 1935. All three failed under a relatively light load after years of successful service. The order of stress from bending at the time of failure was about one-tenth or less the yield strength of steel.

However, this does not mean that a factor of safety of ten existed. The failure was equivalent to the critical buckling of a slender column, which

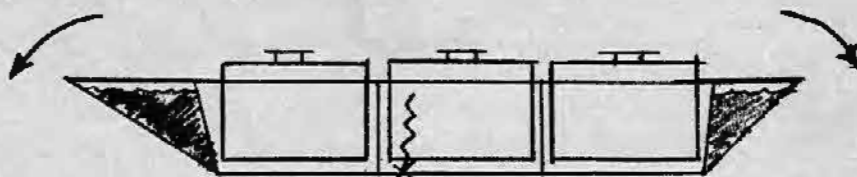


Figure 1.

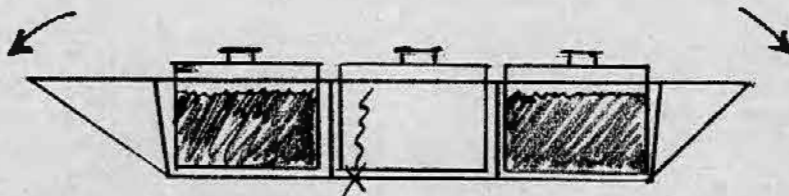


Figure 2.

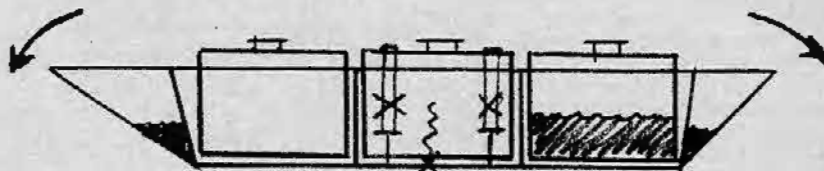
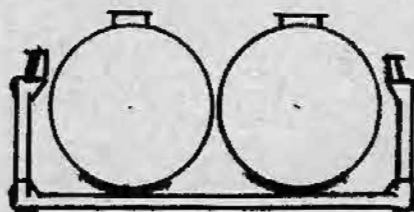


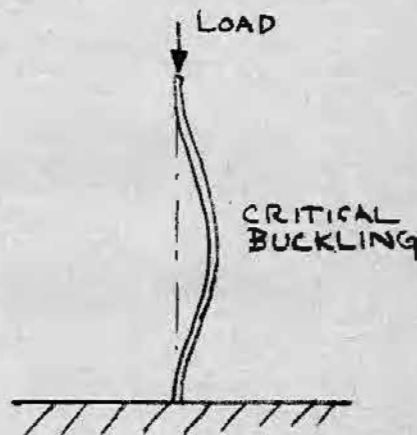
Figure 3.



TRANSVERSE VIEW

does not depend on the strength of the material but upon the structural dimensions and the modulus of elasticity.

Although the vessels apparently possessed adequate section modulus, and hence should have had sufficient longitudinal strength, they were poor in a matter of detail—in the manner in which the stress was to be absorbed. The fracturing of the independent tank straps indicates that the tanks were providing some of the missing fore and aft rigidity of which the bottom plating was incapable when the barges were in a hogging condition, as all were at the time of failure. With the right load combination to produce hogging, and a little corrosion, the absence of longitudinal members to stiffen the bottom plating permitted the plating to buckle under the compressive load.



The technical name for this type of failure is "elastic instability," a scientific term for the well-known principle that "you can't push a wet noodle."

Construction of transversely framed barges of the type described above is giving way to the superior ability of longitudinal framed vessels to absorb punishment in service. However, regardless of the mode of construction, the failures described here point out that, in establishing the operating procedures for any vessel, the operator should give serious thought to the structural limitations of the design.

DON'T FIDDLE WITH FIDDLER'S GREEN

By CDR H. J. Kelly, Merchant Vessel Inspection Division, USCG

IT USED to be a common saying that when you picked up a prune pit on your deep sea lead after taking a sounding off the eastern seaboard of the United States you had a fairly accurate line of position insofar as longitude was concerned. This was brought about by a species of "strawberries" which were a part of a then well-known steamship company's daily menu.

The sea bottom no doubt has dozens of trails of debris which lead from port to port for perhaps hundreds or thousands of miles. However, it is not the intention here to discuss the hidden commerce trails of Davy Jones' locker but to bring to attention the fact that the disposal of trash at sea is not always under complete supervision especially insofar as the means of egress from vessels is concerned.

It is fairly common practice or routine to open one of a ship's side ports while at sea and to dump overboard crates, cartons and other items of trash which accumulate so rapidly, especially on passenger vessels. In some instances the side port is lashed or otherwise secured in the open position and remains in this condition day

after day or even for the whole voyage. When it is closed again it may be because of the vagaries of the wind or heavy sprays may come into the vessel. In such cases it is closed and the side port on the opposite side of the vessel is opened.

So all in all the condition of incomplete watertight integrity is permitted to continue. This open-port condition presents the added hazard of loss of stability in the event of collision when a sudden listing of the vessel might submerge the side port allowing the sea to pour in. Again when heavy weather develops and causes rolling or pitching or heavy seas to pound against the side of the vessel, it is particularly an arduous and hazardous task to close and secure side ports and personal injury or death can easily occur.

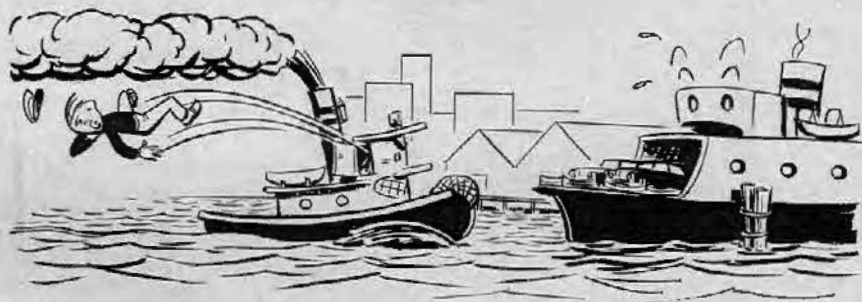
During critical periods, and these may be deemed to exist at all times while the vessel is being navigated and more so during the hours of darkness, heavy weather, passing through areas of low visibility or icebergs, it is urged that vessel's personnel are made aware of hazards present when side ports, garbage chutes, airports, etc., are left open and under no reliable supervision.

Coast Guard regulations regarding the closure of hatches and other openings in vessels are very specific and for very good reasons, based on factual knowledge of causes of sea disasters.

These bothersome emergency drills which are so necessary for training—don't rush through them with merely a crew muster and log entry. Simulated casualties should become part of every fire and collision drill. Preparations in man overboard drill or abandon ship drill should be thorough. The meaning of all emergency signals should be well known to all hands; the use of emergency equipment should be fully explained and where and when possible an actual demonstration presented by some of the officers or experienced crew members.

The use of a fire extinguisher is simple enough, but the effective use of it requires some explanation. This is true with many firefighting and lifesaving items of equipment. It takes a little time; nevertheless, the gain is well worth the time and trouble. Our American Merchant Marine is one of the best in the world, we have the safest of ships with skillful officers and crews. Let us keep it this way.

UNUSUAL ACCIDENT



A marine casualty report sent along to Coast Guard Headquarters from a large southern port relates an unusual accident between a pilotless tug and a moored ferry.

That's right—pilotless! The tug was sailing along without a soul on the bridge when its tow slammed into the side of the ferry.

This is how it happened:

About three miles below the point of collision an unexpected spin of the tug's steering wheel hurled the helmsman out the hinged wheelhouse door

and over into the water. Once in the water, the startled but otherwise uninjured man shouted for help. None of the other four crewmen on the boat heard his calls.

The towboat, minus its bridge watch, proceeded on its 10-knot way.

Up ahead a ferry had completed loading passengers and automobiles, but decided to wait until the oncoming tug and tow were made fast. When the movements of the tug indicated a collision course the pilot on watch on

the ferry sounded the danger signal and alerted the passengers.

The tow struck the after quarter of the ferry, damaging its steering gear, one lifeboat, and two automobiles. The crew of the tug unaware of what was taking place until after the collision, quickly took charge of the situation and brought the tug to a halt.

There were no injuries in this case and the water-soaked helmsman was picked up almost immediately and suffered no ill effects.

SAFETY IS BIG BUSINESS ON THE WATERWAYS

THE INLAND waterways of the United States are not dotted with caution signs, stop lights, curve ahead, slow and danger signs which admonish highway users to exercise safety precautions.

But they too have their safety signs in the form of lights, buoys, day markers and beacons which warn against dangers in the channel. Safety measures do not begin or end with visual aids that mark the flowing path of the river traveler, whether he be a towboat pilot or a pleasure craft skipper.

Initial safety measures are taken when the boat designer drafts his first lines on a drawing board. The 19,000 pieces of floating equipment operated by the barge and towing vessel industry feature maximum safety provisions in design and construction. These range from heavier scantlings, framing and plating than would be necessary on similar sized vessels for protection from the hazards of floating and submerged debris and shifting sandbars, to pilothouses with 360-degree visibility allowing river captains to see dangers that may be lurking in any direction.

Much has been done to make inland waterways equipment safer. The old narrow catwalks that required deckhands to move with utmost care as they carried lines over their shoulders have been replaced with walking areas on barges that are three to four feet wide.

Engine room, galley, and pilothouse are constantly checked for breakdowns. Fire-fighting equipment must meet United States Coast Guard requirements and includes various types of semi-portable extinguishers.

On most boats a pump supplies water to fire stations located throughout the boat, each equipped with as much as 75 feet of hose. And alarm bells, at strategic points, are controlled from the pilothouse.

Back in Mark Twain's steamboating days, experienced river pilots navigated largely by landmarks which they had committed to memory during years of trial and error. But at night these were of little value.

Aids to navigation provide the physical signposts along water routes. They warn against shallow waters, reefs and rapidly shifting sand bars, channels which move with every spring flood, embankments which topple and slide in heavy rains, and wrecks, ever-present hazards which are unknown to salt water navigators.

A uniform system of aids to navigation on the inland waters was begun



CLAD IN SOU-WESTER and oil skins, a Coast Guard inspector prepares to enter a tank barge to determine the cause of the swelling seen in this picture.

This is the sixth and last of a series of articles on our inland waterways prepared especially for the Proceedings by The American Waterways Operators, Inc., a nonprofit trade association of domestic carriers and operators on the inland waters, intracoastal canals and waterways, bays, sounds, and harbors of the United States.

by the Lighthouse Service in 1874. Since that time lighting apparatus for aids has undergone a full evolution from mineral oil to kerosene to electric and battery powered devices.

Navigation lights are placed and maintained by Coast Guard crews who move them whenever necessary to the best possible location as a navigation aid. A regular schedule of checking the lights is maintained by fishermen and others along the river who are paid by the Coast Guard. These light tenders must maintain their assigned lights regardless of weather or channel conditions.

A white or green colored light is used on the starboard when descending the river, and a white or red color is used on the port.

Day markers are large, white, diamond-shaped boards placed at suitable locations by the Coast Guard for navigation by day. The decision on whether a lighted aid or a day marker is used is based on the type

of traffic using the area, the character of the hazard, and its relation to other aids in the area.

Floating buoys of various types have always been used on the rivers and engineers are constantly working on improved models. Until as late as 1936 wood plank floats with oil lanterns were used extensively on the Ohio River. Most common in recent years are streamlined metal floats with battery-operated flashing equipment.

Channel buoys are placed by the Corps of Engineers channel inspection and maintenance crews for the Coast Guard on a reimbursable basis. Buoys are moved constantly with channel changes. Sailing downstream, red buoys mark the port and black buoys the starboard of the navigational channels.

Along the 5,000 miles of the Mississippi River system alone the Coast Guard maintains nearly 10,000 navigational aids. Keeping the aids in working condition is a major task. In the rapidly moving river waters buoys are subject to rough handling from currents, not to mention an occasional rough bump from towboats and barges as well as pleasure boats which rely on them. Boats which collide with and damage or destroy an aid to navigation are required to report the incident to the nearest Coast Guard office and pay for its replacement.

Over the years, the barge and tow-

ing vessel industry has invested heavily in time, effort, and money toward eliminating hazards, resulting in improved safety conditions aboard the inland fleet. Nevertheless, it has been proved that eliminating hazardous conditions does not eliminate ac-

cidents, since the greatest majority are caused by unsafe acts rather than unsafe conditions.

Great stress has been laid on education programs for workers aboard vessels. Simple but very important guidelines have been formulated for

employee safety in an effort to stamp out accidents caused by the human factor. Primarily established for workers on inland waterways equipment, the following safety admonitions are considered excellent ground rules for all marine operations:

- Always wear your life jacket properly on the tow, and at any other time you are exposed to falling overboard.

- Do not wrestle or "skylark" on the boat or barges. Horseplay doesn't pay.

- Sit down when riding in a yawl.

- Do not run on the barges, do not jump from barge to barge, nor jump over timberheads.

- Make sure that all gangways on boats and barges are clear and swept clean. Keep cargo cleaned off walkways on boats and barges. Clean up oil and grease spots on the deck. In emergencies sprinkle sand on any icy or slippery spots on the decks of boats or barges.

- Keep loose gear, wires, ropes, ratchets, etc., stowed neatly on the boat or barges.

- When walking on the barges in tow, walk up the middle between the barges and not along the outside.

- Do not go on the tow alone at night. If necessary to do so, advise the pilot before going.

- Keep all hatch covers and pump-box covers dogged down tightly.

- Avoid hanging and stowage of gear so that it obstructs walkways.

- Keep alert when maneuvering barges in a lock; watch for holes between the barges.

- Life-lines and guard rails should be kept taut and intact. Do not hang on life-lines around the boat—one may break.

- Do not stand in a bight of a line at any time.

- Stand in the clear when handling a line on a timberhead or capstan. When possible have another man back you up on the line.

- Stand clear of lines or wires when they have a strain on them. Do not straddle wires when tightening ratchets.

- "Watch the Bump" when barges come together in making up the tow. Get down on your hands and knees and hold on to a timberhead or barge coaming. Pass the word, "Watch the Bump."

- Wear goggles when chipping, burning, grinding or scraping.

- Do not jump into the river to "swim" a line ashore. Use the yawl. Swimming off the boat or barges is prohibited.

- Do not lean against the lock wall when standing on barges in a lock.

- Wear proper clothing, especially gloves and shoes.

- Know the safe way to perform your job. When in doubt consult your supervisor.

- When not in use take cranks and crank wheels out of the hand winches.

- Set your ladder securely. Watch for broken or cracked rungs.

- When working around machinery in operation, check your clothing for loose ends so you won't get caught.

- Carry the load on your outside shoulder when walking along the outside of a barge.

- Do not lean over the edge of the boat or barge to grab a line. Use a pike pole.

- Do not make a line fast to a head when there is already a line there. Clear the head.

- Place ratchets on the barges so they will tighten inbound.

- Observe "No Smoking" rules. You must not smoke: (a) in bed; (b) on decks of petroleum or inflammable cargo barges; (c) in paint lockers; (d) at oil docks. **WARNING:** Know your river conditions before you throw lighted cigarettes or any fire into it.

- Have a safe place for all cutting utensils (galley knives, axes, etc.) and keep them in place.

- Keep your hands and feet from between the barges in tow and from between towing knees and the barges.

- Never work around the edge of the boat or barge with your back to the river.

- Know the location and use of ALL fire extinguishers and fire hydrants.

- When possible, all wires and lines should be handled from the line deck of a barge.

- Drinking or the possession of intoxicants is prohibited.

- Familiarize yourself with all whistle and alarm signals.

- Keep fingers from between timberheads and wires when throwing off face wires.

- Possession of firearms aboard boats is prohibited.

- Keep alert—avoid situations where you are exposed to danger.

Because of changing channel conditions, the Corps of Engineers and the Coast Guard issue navigational bulletins whenever necessary. Notices to mariners are broadcast to towboat pilots on regular schedules.

The Coast Guard annually publishes light lists which spot the exact locations of lights and other aids to

navigation to help river navigators chart their courses.

In addition, the Corps of Engineers publishes a folio of maps with detailed information for river travelers. The maps show the location of the channel line and navigation lights and include tables of river distances, bridge locations with sketches and clearances,

maximum and minimum river gage readings and discharges, and information regarding port and dock facilities.

Another of the Coast Guard's major work in safety operations is marine inspection. The service has assumed responsibility for guaranteeing that commercial cargo and passenger ves-



COAST GUARDSMEN clear brush along the Mississippi River so the daymark seen in the background can be readily observed.

sels are built and maintained in safe operating condition. Included in the basic assignment is the regulation of emergency and life-saving equipment and the examining and licensing of personnel.

Coast Guard inspectors check the blueprints of proposed new vessels and maintain a careful watch on their construction from keel laying to launching. Among the items which receive special scrutiny are the boilers of steam driven vessels, tanks and lines which carry gases or liquids under pressure, miscellaneous machinery including winches, lines, cargo handling gear and ventilating systems, and navigation, fire-fighting and life-saving equipment.

Motor vessels, unless they actually transport cargo, petroleum products in bulk, or passengers are not subject to Coast Guard inspection, nor is their construction subject to approval. They must, however, still carry certain fire-fighting, life-saving and navigation equipment.

Barges are inspected by the Coast Guard if used to transport inflammable and combustible liquid cargoes and certain types of dangerous chemicals. After the initial inspection, the Coast Guard may make periodic spot re-checks to see that everything is maintained in proper operating condition in addition to regularly scheduled inspections every two years.

Coast Guard inspectors also investigate accidents involving commercial and pleasure boats to determine whether they happened as a result of incompetency or a violation of Federal law. In cases where vessels are damaged, inspectors must see that

they are properly repaired before such vessels are permitted to continue in service.

The phenomenal growth of pleasure boating as a recreational activity in recent years has created new problems over the water avenues which had been previously used mostly for commercial movements. Because of the growing use of the inland waterways by an estimated 35,000,000 Americans who take to the water for recreation and relaxation in more than 7,000,000 pleasure boats, operators of commercial craft have had to adopt new safety precautions in order to avoid serious incidents. Occasionally an outboard motor quits or someone cuts too closely in front of a towboat shoving along a string of barges at a good speed. The near misses and occasional accidents have resulted in areas of friction between commercial and pleasure interests.

Cooperative efforts by commercial and pleasure craft industries are under way to foster better understanding between the two interests. This may ease and eventually eliminate many of the problems so that full utilization of the navigable channels will be possible in harmony and safety.

Although movements by barge and towboat are dependable, efficient and reliable, more can be done to cut the high toll in dollars and pain resulting from unnecessary accidents. Safety will continue to be the watchword of carriers on the inland waterways of the United States, not only for their own personnel, equipment and cargoes, but for others using the channels as well.

LEGAL OPINIONS

Pilot Rules, Violation of as imposing liability under Jones Act: The violation of a Coast Guard navigation regulation results in employer's liability under the Jones Act if the injury is causally connected to the violation, regardless of negligence. The result and applicable law in the case of the tug *Arthur N. Herron*, 1956 A. M. C. 383, 1956 A. M. C. 1803, has undergone recent and complete change at the hands of the Supreme Court. The case involved suit for damages under the Jones Act for the death of a seaman resulting from a fire occasioned by a violation of 33 CFR 80.16 (h). The court in a 5 to 4 decision, reversing both courts below, held that since the seaman's death was actually caused by the defect or insufficiency of the barge's lighting equipment in violation of the CG promulgated regulation, liability followed notwithstanding that negligence was not involved and the statutory duty was imposed for the purposes of navigational safety and not personal safety of the employees. *Kernan v. American Dredging Co.*, 1958 A. M. C. 251, 355 U. S. 426.

Negligence: use of small boat for purpose not intended in design precludes recovery when swamped by wake of another vessel. In a recent case libellants were denied recovery on an alleged claim arising out of the following factual situation. Three persons were cruising about in the Intracoastal Waterway with expensive camera equipment for picture taking in a 14-foot square ended punt powered by an outboard motor. The heaviest of the occupants was in the bow, resulting in approximately 4 inches of freeboard. A tug pushing four barges was proceeding in the area. The master of the tug on approaching "slow" signs had reduced speed to half ahead. When he noticed the small boat approaching, he further reduced speed to slow ahead. As the bow wave got nearer the boat operator, apparently apprehensive, suddenly slowed; the boat dropped by the head, swamped and sank.

The court held that the sole and proximate cause of the accident was the initial negligence of the parties in using the punt for purposes for which not designed nor intended, amplified by the operation of slowing suddenly and thereby contributing to the boat's inherent unseaworthiness. This negligence of the libellants and lack of any indiscretion by the tug captain clearly precluded liability. *Wooley et al. v. Miss Lou Towing Service*, 1958 A. M. C. 469.

ACCIDENTS IN BRIEF

Here is a condensation of some accidents reported to Coast Guard Headquarters during the past month. A capsule glimpse into the cause * * * and effect. In each case the victim was incapacitated for at least 72 hours.

CAUSE

EFFECT



Straight
ladder slipped.... Fractured left pelvis.

Boom securing collar.....	Compound skull fracture.
Compressor exhaust valve opened by mistake....	Second degree burns to body and arm.
Bolt carried away.....	Four broken toes left foot.
Generator radiator cap flew off.....	Minor burns.



Five-foot
jump to dock.... Injured right foot.

Slacking mooring lines.....	Broken nose, lacerated forehead.
Unsecured rat guard.....	Concussion and lacerated scalp.
Deck slippery from loose rape seed.....	Dislocated shoulder.



French potato
cutter..... Lacerated thumb.

Open 'tween decks.....	Eighteen foot fall to lower hold.
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FROM RAGS TO RUIN

Anyway you look at it, \$225,000 is a lot of money for a wiping rag. That was the figure estimated for a complete replacement of a main generator turbine aboard a T-2 tanker after a 2 x 7-inch rag lodged in the lube oil supply line for the main turbine thrust bearing.

This casualty was caused by a rag being left in a lube oil gravity tank after a cleaning operation *more than 8 months* before. The rag traveled from the gravity tank to the lube oil supply line, and the reduction of oil flow to the bearing caused it to wipe and damage the turbine blading.

DETAILS FOLLOW

This T-2 was outbound from a Gulf port at 86 RPM's when the main turbine tripped. After re-setting, the ship continued at reduced speed for another 32 minutes when the turbine tripped again. Further attempts to re-set the trip were unsuccessful. It was at this point that a rag was detected in the sight glass for the bearing lube oil line.

Determining that the main generator turbine was frozen and would no longer turn a tug was called and the vessel was towed back to port. After removal of the turbine casing the rotor was lifted off the vessel for inspection. It was at this point it was decided that the extent of damage necessitated replacement of the unit.

A routine check of the lube oil system by the watch *might* have averted the casualty—a careful examination of the gravity tank after cleaning *would* have averted it.



"THE ENGINEER SAYS THESE ARE ABOUT THE ONLY EXTRA KNOTS HE CAN GET OUT OF HER, SIR."

KEEP CLEAR OF SUBMARINE CABLES

THE DENIZENS of the deep have a new companion—the human voice!

From Newfoundland to Scotland, California to Hawaii, and from the State of Washington to Alaska, voices now travel beneath the high seas via submarine cables to breach the gaps of time and space.

The cable runs a sure path across the ocean floor eventually reaching the shoreline of a distant land to establish contact with its foreign agent—a telephone receiver.

Like the "voice" which travels along miles and miles of land cable, the submarine version is ever in danger, but from an unexpected quarter—the fishing trawler. While seamount slides and underwater volcanic eruptions are of great concern, the primary hazard to all types of cable (be it telephone or telegraph) is the hundreds of fishing vessels active in and around cable areas.

Conversely, these underwater communications systems provide a day-to-day threat to the livelihood of the trawler fishermen. Should gear become entangled with deep-sea cables, fishermen face the loss of nets, otter boards and, in some cases, life itself. Unlike telegraph cables, the recently

established voice links in the Atlantic and Pacific carry as much as 2,500 volts of electricity. Attempts at severing voice cable from trawling gear could seriously injure the fishermen.

Efforts to skirt known fishing banks off Newfoundland, Seattle and Alaskan coastlines were an important part of the early planning stages and, as a result, the new underwater telephone links were put to sea away from the normal course of the trawling fleet. However, since trawlers often depart from the fishing banks to obtain their catch, the danger to cable remains constant.

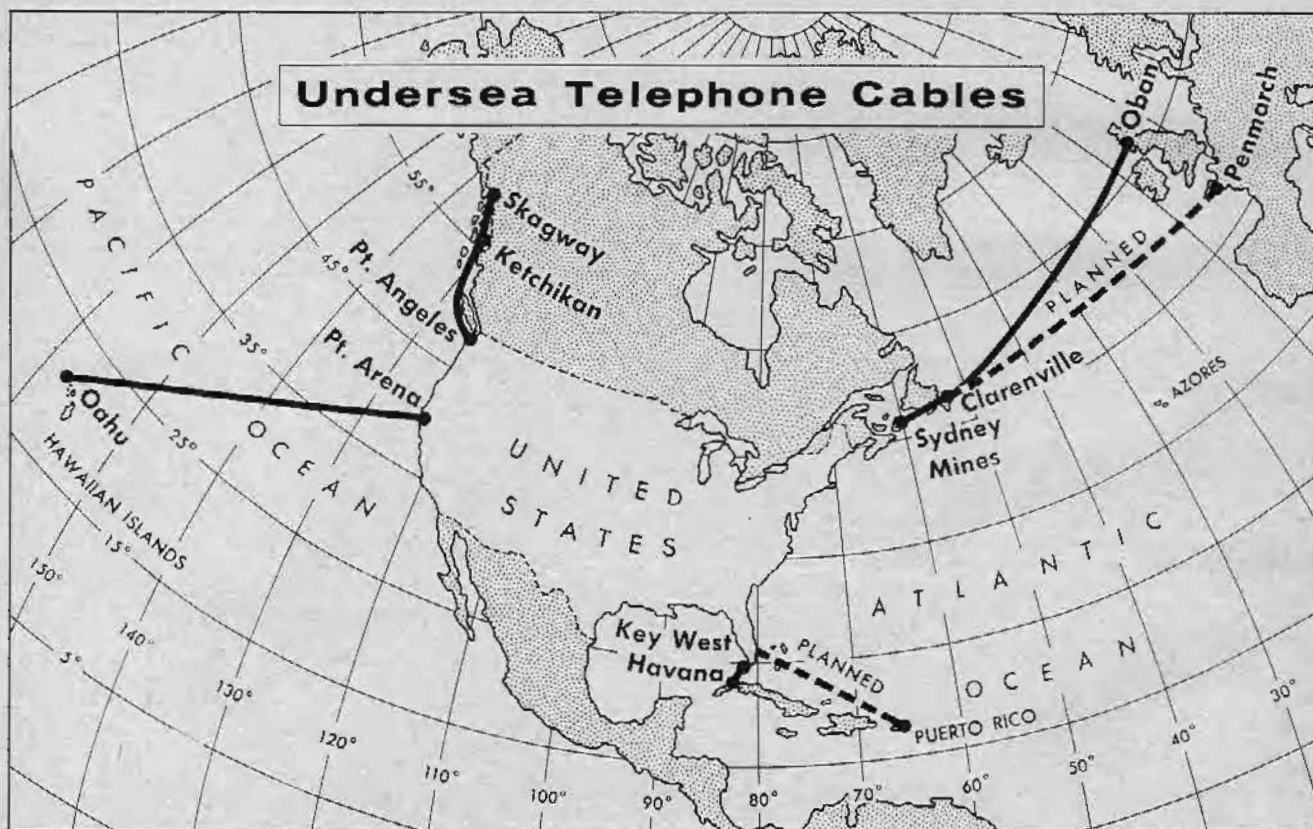
Disruption of telegraph cable service off Newfoundland has been frequent due to entanglement of trawler equipment. In 1955, '56 and part of '57, trawling operations caused 52 failures in cables owned by but one company.

Attempting to free their gear, fishermen have cut cable and damaged their own equipment in the process. The end result was interruption of vital telegraph communications between continents and loss of work—days, weeks or months—for the fishermen involved.

Because of the immense complexities involved in deep-sea telephone cables, a three-point plan aimed at reducing trawler-cable mishaps has recently been launched by the Long Lines Department of American Telephone and Telegraph Company. This company, responsible for the first underwater telephone cable systems between the United States mainland and Europe, Hawaii and Alaska, is now ready to start construction of two more voice cable systems. One system again crossing the Atlantic with landing sites at Clarenville, Newfoundland, and Penmarch, France (first Atlantic cable project terminates at Clarenville and Oban, Scotland). The second voice system planned goes south from Florida to Puerto Rico.

Trawler captains have been asked to:

1. Familiarize themselves with charts showing underseas telephone cable routes and to avoid them as much as possible in trawling missions;
2. Avoid dragging nets or dropping anchors or heavy gear near cable routes, and
3. Avoid starting trawling runs that would bisect cable positions.



HOT WORK REPAIRS TO SARAN COATED TANK VESSELS

By Frank L. Healy

Chief Chemist, Todd Shipyard Corp., Brooklyn, N. Y.

ALL MARINE chemists by this time, no doubt, had the not altogether pleasant experience of providing chemical supervision during the Saran painting of a tank vessel or two. During the long night watches it has probably occurred to most of us who have had this experience that the time would inevitably come when a major repair would have to be made on a Saran coated vessel.

What would be the problems involved in such an operation? Would it be necessary first of all to remove the Saran coating in the area of hot work by sand-blasting or by some other method? Or would it be possible to burn out the damaged steel without removing the Saran coating, provided, of course, the burners could be equipped with adequate respiratory protection.

The chemists at Todd-Brooklyn found themselves faced with such a problem when the Saran coated tank vessel, *USNS Pecos* arrived in the bay last fall with bottom damage involving some 15 cargo tanks. The easy way out seemed to be to canvass some of our contemporaries in the profession with the hope that one of them might already have had such a job and would be willing to permit us to profit by his experience. In the Atlantic Coast area it developed that we were not able to find such a one.

However, from discussions we had had at a recent meeting of the Atlantic Coast Section of the Marine Chemists' Association, it appeared that the best approach to a solution of the problem would be to consider Saran as a chlorinated hydrocarbon, which it is essentially, being a polymerized vinylidene chloride combined with a pigment. On this basis, it has been pointed out, the more probable toxic products of thermal decomposition would be hydrochloric acid vapor and chlorine gas. It was further suggested, bearing in mind the reaction of chlorinated hydrocarbons in contact with hot metal, that some phosgene might be generated.

TESTS CONDUCTED

Experiments were, therefore, conducted in which samples of Saran coated steel were burned with an oxy-acetylene torch and the gaseous products collected and tested for hydrochloric acid vapor, chlorine and phosgene. Although no attempt was made to conduct the experiments on

The Saran coating discussed in this article is a plastic application made to tank interiors to prevent internal corrosion. The coating, which is applied to a surface previously shot or sand blasted, has been found highly resistant to petroleum products and salt water.

a quantitative basis the presence of chlorine was established by drawing the vapors through a bubbler containing 4% Potassium Iodide (KI) solution to which starch had been added. A positive test for hydrochloric acid vapor was obtained by this conventional method.

Tests for phosgene using Harrison's reagent proved negative (see M. B. Jacobs—*The Analytical Chemistry of Industrial Poisons, Hazards and Solvents*, 2d edition). In this method a yellow or orange stain is produced by phosgene on test paper containing diphenylamine and p-dimethylaminobenzaldehyde. The test is capable of detecting one part of phosgene in one million parts of air. The stain produced by phosgene is transient and the test papers are sensitive to chlorine and hydrochloric acid vapor. To remove these the atmosphere to be tested is drawn through a guard tube containing pumice impregnated with sodium thiosulphate before it comes in contact with the test paper.

Reagent: Dissolve 5 grams of colorless diphenylamine and 5 grams of p-dimethylaminobenzaldehyde each in 50 ml. of carbon tetrachloride and mix. Dip filter paper immediately into this solution and dry. Store papers in tightly sealed brown bottle.

BURNING STARTED

It was then decided to equip the burners with air-line respirators, to protect exposed skin areas with protective cream and to start them on the burning out of the damaged bottom. No one but the burners was permitted into the tanks during the burning process. Up-draft exhaust ventilation at the rate of 6,000 cubic feet per minute was provided and this ventilation was found adequate to keep drydock areas clear of fumes so that riggers could work without respiratory protection in removing the dropped plates from the drydock areas.

It might be mentioned here that no difficulty as to fire hazards resulted from the contact of the Saran with the flame of the burners' torches. The Saran burned locally with a murky orange flame which did not propagate and which extinguished itself when the flame of the torch was removed.

The job proceeded without mishap. As the burning out was finished in each tank, the pipe fitters and machinists were permitted to enter and make necessary removals. When it was required to weld a clip inside a tank, burning was suspended and the surface involved carefully cleaned to bare metal. Also, prior to installation and welding of the new plates, a six-inch margin, as far as practical, was cleaned of Saran on adjoining coated plates by means of sand-blasting.

During the entire job there was but one dispensary case. One of the burners reported with a reddened neck. It was found that he had forgotten to apply a protective cream. There was also some evidence of deterioration of the burners' clothing.

Frequent inspection of drydock areas was made during the burning out period. One early morning just after the burners had resumed operations in a tank that was partly open on the bottom, the chemist was amazed on arrival to see fumes pouring out through the bottom of the tank. The puzzle was quickly solved when it was discovered that during the night—the burners were not working during the night—a pipe-fitter had reversed the blower because he preferred down draft ventilation.



STATISTICAL SUMMARY OF PERSONAL INJURIES REPORTED ON FORM CG-924E DURING FISCAL YEAR 1958

(NOTE: This Does Not Include Deaths or Injuries From Vessel Casualties)

PERSONNEL CASUALTIES		HUMAN								ENVIRONMENT				OTHER							
Injuries	Reported during period of July 1, 1957, to June 30, 1958	Intoxication	Physical deficiency	Unsafe movement (running, jumping, etc.)	Psychological (Immaturity, insanity)	Unsafe practice	Law violation	Other human errors	Weather conditions	Poor maintenance (housekeeping)	Inadequate lighting	Inadequate rails, guards, etc.	Other	Failure approved equipment or material	Failure unapproved equipment or material	Supervision inadequate	Life preservers insufficient	Lack of tools/equipment	Lack of protective gear	Insufficient info to classify as to cause	Miscellaneous causes
1	Suicide (and attempts).....	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
45	Ashore.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
114	Slips and falls—Ladders.....	8	2	3	--	13	--	36	3	6	--	--	9	1	--	--	--	1	1	28	3
25	Slips and falls—Gangways.....	2	--	--	--	4	--	8	--	1	--	--	2	--	--	--	--	--	--	8	--
140	Slips and falls—On deck.....	6	--	8	--	6	--	22	21	7	--	--	38	--	2	--	--	--	--	27	3
47	Slips and falls—Other—Same level.....	1	--	1	--	1	--	9	5	--	--	--	11	--	2	--	--	--	--	14	3
7	Falls from vessel—Into water.....	1	--	--	--	2	--	--	--	--	1	--	2	--	--	--	--	--	--	1	--
9	Falls into hold, tank.....	--	--	--	--	3	--	--	1	--	--	1	3	--	--	--	--	--	--	1	--
87	Falls—Other—Different level.....	6	--	13	3	22	--	19	2	--	--	2	7	--	2	1	--	--	1	8	1
74	Struck by—Falling object.....	1	--	--	--	13	--	19	7	--	--	--	15	--	9	--	--	1	--	4	5
18	Struck by—Flying object.....	--	--	1	--	7	--	2	2	--	--	--	2	--	2	--	--	--	--	1	1
27	Struck by—Moving object (other than vessel).....	--	--	--	--	5	1	6	4	--	--	--	1	--	5	1	--	--	--	4	1
3	Struck by—Bolt or ship.....	--	--	--	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	1	--
77	Struck against.....	1	--	5	1	5	--	25	16	--	--	--	12	--	2	--	--	1	--	7	2
7	Cargo handling.....	--	--	--	--	2	--	2	--	--	--	--	1	--	1	1	--	--	--	--	--
45	Machinery—Tools.....	--	--	1	--	6	--	17	2	--	--	1	5	--	6	--	--	1	1	4	1
19	Burns.....	--	--	--	--	6	--	5	2	--	--	--	3	--	2	--	--	--	--	1	--
48	Scalds.....	--	--	--	--	18	--	9	4	2	--	--	7	--	5	--	--	--	--	3	--
45	Lines, caught in.....	--	--	4	--	9	--	14	--	2	--	--	6	--	1	3	--	1	--	3	2
59	Pinching—Crushing.....	1	--	2	--	11	--	20	11	--	--	--	6	--	2	--	--	--	--	3	1
18	Heavy weather.....	--	--	--	--	--	--	--	18	--	--	--	--	--	--	--	--	--	--	--	--
64	Over exertion.....	--	3	5	--	1	--	26	2	--	--	--	6	--	--	--	--	1	--	19	1
59	Sprains and strains.....	--	1	14	--	3	--	23	3	1	--	--	7	--	--	--	--	--	--	3	4
2	Cuts, punctures, etc.....	--	--	--	--	1	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--
26	Galley accidents.....	1	--	--	--	3	--	10	1	--	--	--	1	--	--	--	--	--	1	4	5
29	Unknown causes.....	2	1	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	24	1
88	Not otherwise classified.....	1	--	8	--	12	--	5	1	2	--	1	3	--	--	--	--	--	4	10	11
1,210	Totals.....	31	7	65	5	154	3	276	106	21	1	5	148	1	41	8	--	6	8	178	44

APPENDIX

AMENDMENTS TO REGULATIONS

[EDITOR'S NOTE.—The material contained herein has been condensed due to space limitations. Copies of the Federal Registers containing the material referred to may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

[CGFR 58-29]

RATING: TESTS AND INSPECTIONS OF PORTABLE AND SEMI-PORTABLE FIRE EXTINGUISHERS

Notices regarding proposed changes in the navigation and vessel inspection regulations, as well as withdrawal of certain manufacturers' approvals, were published in the Federal Register dated February 12, 1958 (23 F. R. 905-910), and March 1, 1958 (23 F. R. 1268-1270), as Items I through XVIII of an Agenda to be considered by the Merchant Marine Council. Pursuant to these notices the Merchant Marine Council held a public hearing on March 18, 1958, at Washington, D. C.

This document is the ninth of a series covering the regulations and actions considered at this public hearing and annual session of the Merchant Marine Council and contains final actions taken with respect to certain portions of Items VIII and IX dealing with portable and semi-portable fire extinguishers. The eighth document, identified as CGFR 58-28, contains final actions with respect to portable and semi-portable fire extinguishers for artificial islands and fixed structures on the outer Continental Shelf, which are also based on Item VIII of the Agenda, and is published under "Title 33—Navigation and Navigable Waters" in the Federal Register. With respect to the withdrawal of approvals granted certain manufacturers, a supplementary document, identified as CGFR 58-30, contains the final actions and is published as a "Notice" in the Federal Register with the title "Withdrawal of Approvals of Toxic Vaporizing Liquid Type Fire Extinguishers, Such as Those Containing Carbon Tetrachloride or Chlorobromomethane."

All the comments, views, and data submitted in connection with the items considered by the Merchant Marine Council at this public hearing were considered and are very much appreciated. The proposals respecting portable and semi-portable fire extinguishers were revised because of the information received. Portions of the following items regarding portable and semi-portable fire extinguishers considered at the public hearing held March 18, 1958, as revised, are adopted and included in this document:

Item VIII—Portable and Semi-portable Fire Extinguishers; Clarification of Ratings and Withdrawal of Certain Approvals of Carbon Tetrachloride Fire Extinguishers (46 CFR 25.30-10, 76.50-5, 95.50-5, 167.45-75).

Item IX—Fire Precautions for Passenger, Tank, Cargo, and Miscellaneous Vessels (46 CFR 71.25-20, 91.25-20, 167.45-70).

The changes in the proposals respecting portable and semi-portable fire extinguishers are:

a. All requirements for toxic vaporizing liquid fire extinguishers have been removed from the regulations.

b. New regulations have been added which provide that (1) vaporizing liquid type fire extinguishers presently installed on board boats and vessels may be continued in use so long as in good and serviceable condition until January 1, 1962; and (2) the carriage on board boats and vessels of toxic vaporizing liquid type fire extinguishers, such as those containing carbon tetrachloride or chlorobromomethane, as Coast Guard approved equipment is prohibited after January 1, 1962.

c. Minimum values have been established for dry chemical fire extinguishers of 20-, 30-, and 50-pound capacities for classification Types B-III, B-IV, and B-V, respectively. The values for classification Type A-I fire extinguishers have been removed from the classification tables because such extinguishers are no longer required.

d. The current approvals issued to manufacturers of toxic vaporizing liquid type fire extinguishers, such as those containing carbon tetrachloride or chlorobromomethane, are withdrawn effective on the 91st day after the date of publication of Coast Guard Federal Register Document CGFR 58-30 in the Federal Register.

It is felt very desirable to have the requirements for toxic vaporizing liquid type fire extinguishers removed from all the regulations and to prohibit the use of such fire extinguishers as approved equipment on all boats and vessels after January 1, 1962. Therefore, similar amendments will be proposed to the regulations governing tank vessels (Subchapter D) and to small passenger vessels (Subchap-

ter T) and included in a future Public Hearing Agenda of the Merchant Marine Council.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Orders 120, dated July 31, 1950 (15 F. R. 6521), 167-14, dated November 26, 1954 (19 F. R. 8026), 167-15, dated January 3, 1955 (20 F. R. 840), 167-20, dated June 18, 1956 (21 F. R. 4894), and CGFR 56-28, dated July 24, 1956 (21 F. R. 5659), to promulgate regulations in accordance with the statutes cited with the regulations below, the following amendments and regulations are prescribed and shall become effective 90 days after the date of publication of this document in the Federal Register.

[Federal Register of September 6, 1958.]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

[CGFR 58-35]

PART 10—LICENSING OF OFFICERS AND MOTORBOAT OPERATORS AND REGISTRATION OF STAFF OFFICERS

U. S. MARITIME ADMINISTRATION'S RADAR SCHOOL

Pursuant to the authority in R. S. 4405, as amended, and 4462, as amended (46 U. S. C. 375, 416), and the regulations in 46 CFR 10.05-46 with respect to "radar observers," an inspection of the U. S. Maritime Administration's Radar School at New York, New York, was made after receipt of a letter dated June 17, 1958, requesting acceptance of a certificate of successful completion of the course of instruction at the Maritime Administration's Radar School as evidence of qualification as a "radar observer" without further examination as specifically provided in 46 CFR 10.05-46 (d), published in the Federal Register of May 21, 1958 (23 F. R. 3448). This inspection has been concluded at the New York Radar School with favorable results.

Therefore, the U. S. Maritime Administration's Radar School at New York, New York, is approved and Coast Guard Marine Inspection Offices conducting license examinations may recognize any applicant's certificate attesting to successful completion of this Radar School as acceptable evidence of the holder's qualifications as "radar observer" without taking the examination specified in 46 CFR 10.05-46 (b). This approval

shall be effective for all certificates issued by such Radar School from the date of its inception and will continue in effect until this approval is suspended, canceled, or modified by proper authority and notice thereof is published in the Federal Register.

(R. S. 4405, as amended, 4462, as amended; 46 U. S. C. 375, 416)

Dated: September 16, 1958.

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

[F. R. Doc. 58-7836; Filed, Sept. 24, 1958;
8:50 a. m.]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

Subchapter O—Regulations Applicable to Certain Vessels During Emergency

[CGFR 58-32]

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

VESSLS OPERATED BY OR CHARTERED TO MILITARY SEA TRANSPORTATION SERVICE

The Deputy Secretary of Defense in a letter to the Secretary of the Treasury dated August 6, 1958, requested, in the interest of national defense, a waiver of the navigation and vessel inspection laws and regulations to the extent considered necessary by Commander, Military Sea Transportation Service, or his duly designated representatives, to permit vessels operated by or chartered on a time or voyage basis to the Military Sea Transportation Service to carry out their assigned missions in support of troops deployed under emergency conditions.

Section 1 of the Act of December 27, 1950 (64 Stat. 1120; 46 U. S. C., note preceding 1), states in part as follows:

That the head of each department or agency responsible for the administration of the navigation and vessel inspection laws is directed to waive compliance with such laws upon the request of the Secretary of Defense to the extent deemed necessary in the interest of national defense by the Secretary of Defense. * * *

In a document published in the Federal Register dated October 12, 1957 (22 F. R. 8125), the Secretary of Defense, the Honorable Neil McElroy, delegated to the Deputy Secretary of Defense, the Honorable Donald A. Quarles, full power and authority to act for and in the name of the Secre-

tary of Defense and to exercise the powers of the Secretary of Defense upon any and all matters concerning which the Secretary of Defense is authorized to act pursuant to law.

The purpose for the following waiver order designated § 154.06, as well as 33 CFR 19.06, is to waive the navigation and vessel inspection laws and regulations issued pursuant thereto which are administered by the United States Coast Guard as requested by the Deputy Secretary of Defense and to publish this waiver in the Federal Register. It is hereby found that compliance with the Administrative Procedure Act, respecting notice of proposed rule making, public rule making procedure thereon, and effective date requirements thereof, is impracticable and contrary to the public interest.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by an order of the Acting Secretary of the Treasury dated January 23, 1951, identified as CGFR 51-1, and published in the Federal Register dated January 26, 1951 (16 F. R. 731), the following waiver order is promulgated and shall be in effect indefinitely and until terminated by proper authority:

§ 154.06 *Vessels operated by or chartered to Military Sea Transportation Service.* (a) Pursuant to the request of the Deputy Secretary of Defense, dated August 6, 1958, made under the provisions of section 1 of Public Law 891, 81st Congress, approved December 27, 1950 (64 Stat. 1120; 46 U. S. C., note preceding 1), and his finding that a waiver is necessary in the interest of national defense, compliance with the provisions of the navigation and vessel inspection laws administered by the United States Coast Guard, as well as the regulations issued thereunder and contained in 33 CFR Chapter I, or in this chapter, is hereby waived to the extent and upon the terms and conditions as set forth in this section, in order to permit vessels operated by or chartered on a time or voyage basis to the Military Sea Transportation Service to carry out their assigned missions in support of troops deployed under emergency conditions.

(b) An application requesting that this waiver be made effective with respect to a particular vessel may be made by the Commander, Military Sea Transportation Service, or any one of his duly designated representatives. Except as provided in paragraph (e) of this section, the application shall be in writing. The application shall be delivered to the Coast Guard District Commander or to his designated representative at the port or place where the vessel is

located. In the case of a vessel in any foreign port or place, the application shall be made to the designated representative of the Commandant at such port or place, or if the Coast Guard has not established facilities in such port or place, to the nearest designated representative of the Commandant at a port or place where such facilities have been established, or to the Commandant, U. S. Coast Guard, Washington, D. C. Every application shall:

(1) Describe the laws and/or regulations by appropriate references and/or subjects with respect to which the waiver of compliance is desired;

(2) Contain a certification that the waiver of compliance with such laws and/or regulations with respect to the vessel involved is necessary in the interest of national defense and is necessary by the Military Sea Transportation Service to carry out an assigned mission in support of troops deployed under emergency conditions;

(3) The name and official number of the vessel involved (including the names of master, agent, and owner of the vessel involved); and,

(4) For how long the waiver is needed.

(c) The Coast Guard officer making the waiver in paragraph (a) of this section effective for a particular vessel shall immediately prepare, in quadruplicate, an order setting forth:

(1) The name and official number of the vessel involved;

(2) The laws and/or regulations with respect to which the waiver is effective;

(3) The extent to which compliance with such laws and/or regulations is waived; and,

(4) The period for which the waiver shall be effective.

(d) If practicable, one copy of this waiver order shall be delivered to the master of the vessel involved before such vessel sails. In any case where the waiver order is not delivered to the master, it shall be delivered to the owner, operator, or agent of the vessel without delay. One copy of the waiver order shall be delivered to the Commander, Military Sea Transportation Service, or his duly designated representative, who submitted the application. One copy of the waiver order shall be transmitted to the Commandant (MVI) and the remaining copy kept on file.

(e) In any case of extreme urgency, the application for a waiver order may be made orally and if the Coast Guard District Commander (or his designated representative, or the designated representative of the Commandant, or the Commandant, as the case may be), determines that the conditions in this section have been

¹ This is also codified as 33 CFR Part 19.

met, the waiver order shall be made effective without further delay, subject to the condition that the application be reduced to writing and delivered within such period after the date of the oral request as the Coast Guard officer making the waiver effective shall specify in the confirming written waiver order.

(f) No penalty shall be imposed because of failure to comply with any provision of law and/or regulation, the waiver of which has been made effective pursuant to the requirements of this section.

(g) This waiver order shall remain in effect until terminated by proper authority and notice of cancellation is published in the FEDERAL REGISTER.

(Sec. 1, 64 Stat. 1120; 46 U. S. C., note prec. 1)

Dated: August 29, 1958.

[SEAL] J. A. HIRSHFIELD,
Rear Admiral, U. S. Coast
Guard, Acting Commandant.

[F. R. Doc. 58-7184; Filed, Sept. 4, 1958;
8:53 a. m.]

EQUIPMENT APPROVED BY THE COMMANDANT

[EDITOR'S NOTE.—Due to space limitations, it is not possible to publish the documents regarding approvals and terminations of approvals of equipment published in the Federal Register dated September 27, 1958 (CGFR 58-33). Copies of these documents may be obtained from the Superintendent of Documents, Washington 25, D. C.]

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of ships' stores and supplies certificated from 1 September to 30 September 1958, inclusive, for use on board vessels in accordance with the provisions of Part 147 (46 CFR 146-147) of the Dangerous Cargo Regulations are as follows:

CERTIFIED

Chas. J. Webb Sons Co., Inc., 116 Chestnut St., Philadelphia 6, Pa., Certificate No. 321, dated 2 September 1958, CRC.

The Enequist Chemical Co., Inc., 100 Varick Ave., Brooklyn 37, N. Y., Certificate No. 322, dated 23 September 1958, ULTREX #527.

AFFIDAVIT

The following affidavit was accepted during the period from 15 August 1958 to 15 September 1958:

F. C. Kingston Co., 1007 North Main St., Los Angeles 12, Calif., VALVES.

MARINE SAFETY PUBLICATIONS AND PAMPHLETS

The following publications and pamphlets are available and may be obtained upon request from the nearest Marine Inspection Office of the United States Coast Guard, except for cost publications which may be obtained upon application to the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Date of each publication is indicated following title.

CG No.	Title of Publication
101	Specimen Examinations for Merchant Marine Deck Officers. 1-50
108	Rules and Regulations for Military Explosives. 5-15-54
115	Marine Engineering Regulations and Material Specifications. 3-1-58
123	Rules and Regulations for Tank Vessels. 4-1-58
129	Proceedings of the Merchant Marine Council. Monthly
	Motorboat Safety. 1957-1958
169	Rules to Prevent Collisions of Vessels and Pilot Rules for Certain Inland Waters of the Atlantic and Pacific Coasts and of the Coast of the Gulf of Mexico. 4-1-58
172	Pilot Rules for the Great Lakes and Their Connecting and Tributary Waters. 4-1-58
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids. 7-2-51
175	Manual for Lifeboatmen and Able Seamen, Qualified Members of Engine Department, and Tankerman. 6-1-55
176	Load Line Regulations. 11-1-53
182	Specimen Examinations for Merchant Marine Engineer Licenses. 5-1-57
184	Pilot Rules for the Western Rivers. 7-1-57
190	Equipment Lists. 4-1-58
191	Rules and Regulations for Licensing and Certificating of Merchant Marine Personnel. 9-15-55
200	Marine Investigation Regulations and Suspension and Revocation Proceedings. 4-13-53
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels. 4-1-57
227	Laws Governing Marine Inspection. 7-3-50
239	Security of Vessels and Waterfront Facilities. 7-1-58
249	Merchant Marine Council Public Hearing Agenda. Annually
256	Rules and Regulations for Passenger Vessels. 3-1-57
257	Rules and Regulations for Cargo and Miscellaneous Vessels. 6-1-55
258	Rules and Regulations for Uninspected Vessels. 7-1-55
259	Electrical Engineering Regulations. 6-1-55
266	Rules and Regulations for Bulk Grain Cargo. 2-13-53
267	Rules and Regulations for Numbering Undocumented Vessels. 1-15-53
268	Rules and Regulations for Manning of Vessels. 9-3-57
269	Rules and Regulations for Nautical Schools. 11-1-53
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935. 11-19-52
290	Motorboats. 7-1-58
293	Miscellaneous Electrical Equipment List. 4-15-58
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf. 1-2-57
323	Rules and Regulations for Small Passenger Vessels. (Not More Than 65 Feet in Length) 6-1-58

Official changes in rules and regulations are published in the Federal Register, which is printed daily except Sunday, Monday and days following holidays. The Federal Register is a sales publication and may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. It is furnished by mail to subscribers for \$1.50 per month or \$15.00 per year, payable in advance. Individual copies desired may be purchased as long as they are available. The charge for individual copies of the Federal Register varies in proportion to the size of the issue and will be 15 cents unless otherwise noted on the table of changes below.

Changes Published During September 1958

The following has been modified by Federal Register:
CG 176, CG 190, CG 256, CG 257, CG 258, CG 259, CG 269, and CG 320
Federal Register, September 6, 1958.

S/S ATLANTIC ENTERPRISE



PARTICULARS

- Length overall—641 feet.
- Length between perpendiculars—615 feet.
- Beam, molded—84 feet.
- Propulsion—single-screw turbine—14,850 SHP, max.—13,500 normal.
- Contract speed 16.5 knots at 100 RPM.
- Total cargo capacity—251,000 bbls.
- Gross tonnage—18,347.
- Net tonnage—11,995.
- Builders—Sun Shipbuilding & Drydock Company.
- Home port—Wilmington, Del.
- Keel laid—May 14, 1957.
- Launched—March 26, 1958.
- Delivered to the Atlantic Refining Company July 11, 1958.
- Estimated cost of ship—\$10,000,000.
- Official number—276911.
- Signal and radio—Call letters KALC.