

PROCEEDINGS

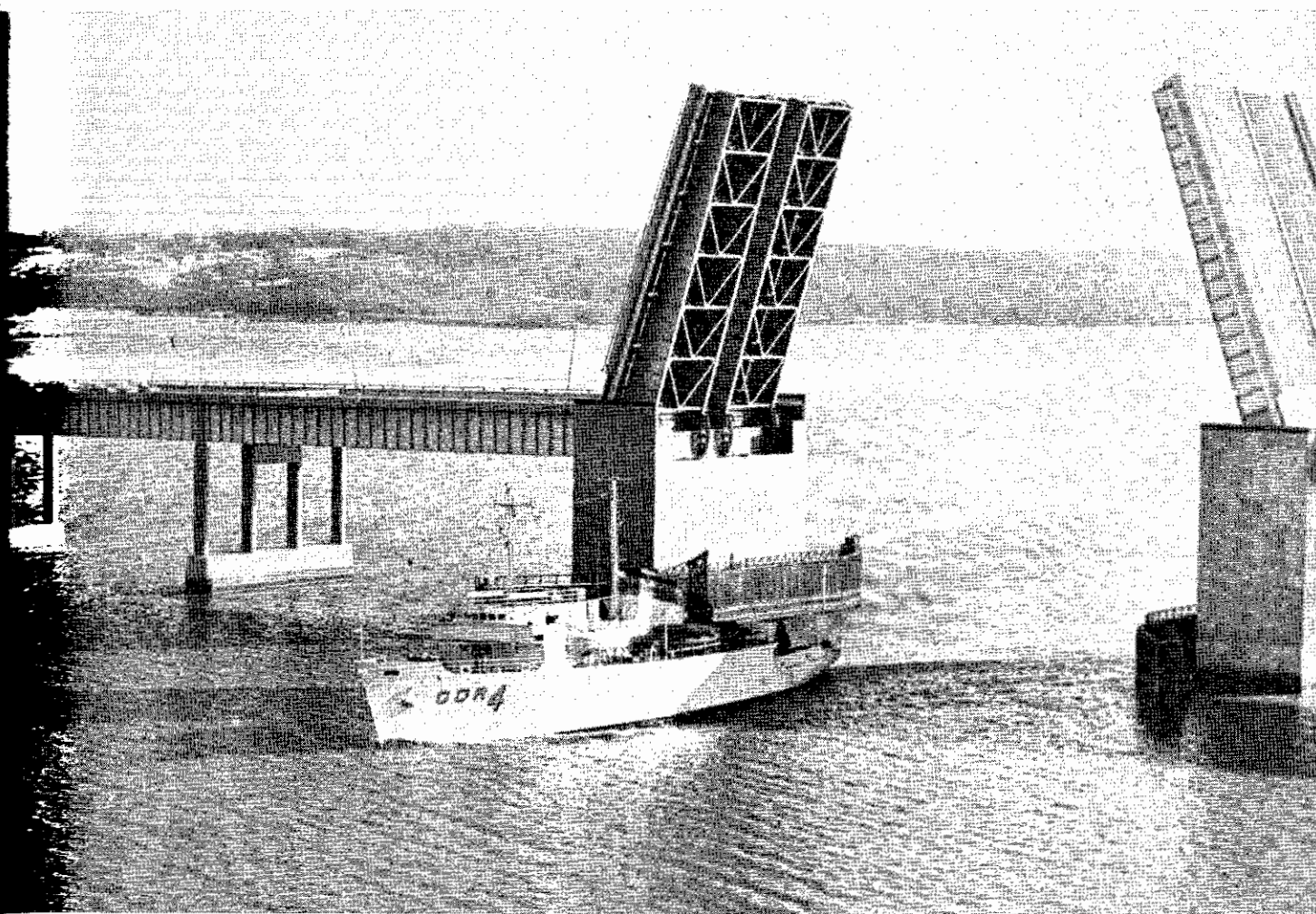
OF THE MERCHANT MARINE COUNCIL



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Features

A VIEW AND REVIEW OF MARITIME SAFETY

USNS GILLISS OCEANOGRAPHIC RESEARCH VESSEL

PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL

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FRONT COVER

USNS *Gilliss*, the new oceanographic vessel, is shown passing through the new Woodrow Wilson Memorial Bridge over the Potomac River.

BACK COVER

Safety saves time, wages, and lives, *courtesy Lykes Fleet Flashes*

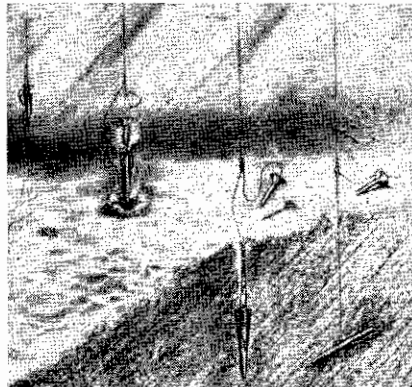
NOTICES:

The feature "Nautical Queries" will be resumed after all items in the Rules of the Road Exercise have been printed.

THIS COPY FOR NOT LESS THAN 20 READERS—PASS IT ALONG

NAVY STUDIES HOLE-DIGGING ANCHOR

Hole-Digging Anchor



SEASTAPLE anchor goes through its paces.

A new kind of anchor that digs its own hole with explosives is under study by the Navy.

The Naval Ordnance Laboratory has a couple of the "Seastaple" an-

chors, made by Pneumo Dynamics Corps., El Segundo, Calif., at the bottom of the Patuxent River off Solomons Island, and others are being tested at the Fort Lauderdale, Fla., test lab. The ones off Solomons Island will be left underwater for a year.

When the anchor hits the bottom an explosive charge in the base of the anchor goes off. This jet of power bounces off a "drag cone" to drive the device deep into the bottom. The ship's pull on the cable tilts the anchor parallel with the bottom to give greater holding power.

The device blasts under the sea floor from 6 feet for the smallest size to 34 feet for the largest ones. Holding power varies from 250 to 300,000 pounds for the various sizes. The Seastaple is reliable on rock or coral bottoms where conventional anchors have little value, the company said.

Courtesy Navy Times

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A VIEW AND REVIEW OF MARITIME SAFETY

BY ADMIRAL E. J. ROLAND

COMMANDANT, U.S. COAST GUARD

THE OBLIGATION to provide for the safety of others is as old as civilization. It was included in the Common Law found in the Old Testament which required that the builder of a new house provide a railing—a battlement—around the roof "lest any man fall from thence."

Safety has been the dominant concern of the Coast Guard since its inception 172 years ago, particularly as it relates to the safety of lives and property at sea. Our functions are an amalgamation of those derived from the former Life Saving Service, the Lighthouse Service, the old Bureau of Marine Inspection and Navigation and those of the original Revenue Cutter Service. Our association with the merchant marine dates back to the founding of this republic.

Giant strides have been made in maritime safety, even within the memory of many here today who can recall the *Titanic*, *Eastland*, *Vestris*, *Mohawk* and *Morro Castle* disasters. It is reasonable to assume that the death toll in the recent *Andria Doria* casualty would have been far greater had it not been for the lessons learned from earlier tragedies. In the constant striving for safety afloat we lean heavily upon the experiences of the past.



The Coast Guard has endeavored to keep pace with the changing times and the technological advances which would have been unbelievable a relatively few years ago. The products of scientists and engineers are constantly creating new problems with each new development or discovery, but problems are a by-product of progress, and each is a challenge to all who are concerned with safety.

WE MUST NEVER BECOME COMPLACENT

Upon reviewing the record of the past year we find that, despite all the new mechanical and electronic devices of detection and communication, and

the improvements in ship design, construction and equipment, over 2,000 commercial vessels were involved in reportable marine casualties and three hundred persons lost their lives as the result of vessel casualties and personnel accidents. Some encouragement may be derived from the fact that, among the hundreds of thousands transported on ocean liners, ferry boats, excursion ships and small inspected craft, only one passenger died as the result of an accident which occurred to the vessel and that was on a boat of less than 65 feet. It also appears that inspection was a significant factor in those cases which raised a general question of seaworthiness. Of all the commercial vessels involved in capsizing, sinking or foundering, there were 10 uninspected for every one certificated by the Coast Guard.

MARINE INSPECTION

The inspection of vessels and their equipment, in the manufacturing, construction and operational stages, is the Coast Guard function most directly related to the accident prevention aspects of marine safety. About 20 percent of our entire officer complement is assigned to this duty. Furthermore, in the past year, they

caused the correction of about 4,000 unsafe conditions and practices which they observed during their routine visits to merchant vessels. These included unsafe handling of cargo, improper ventilation, fire hazards, dangerous gangways and ladders, unsafe handling of electrical equipment, etc.

PORT SECURITY

When a vessel is in port her safety is also our responsibility. The Port Security Program includes regular pier inspections to eliminate hazards caused by lack of firefighting equipment, poor housekeeping, and particularly the handling of dangerous cargoes.

DANGEROUS CARGOES

The amount and variety of dangerous cargoes have increased tremendously. A constant effort is made to maintain safety regulations which provide the safety prescribed by law but allow for the free movement of these materials in a most economical way in both domestic and foreign commerce. We are required to adopt, for our regulations, the requirements imposed on shippers by the Interstate Commerce Commission in order that the cargoes may be moved by rail, highway and vessel under the same definitions, descriptions, classification, packaging and certification. The many varieties of chemical products and their properties of corrosion, toxicity, and their combustible or explosive potentials, have caused us to add chemical engineers to our staff at Headquarters. Their job is to keep abreast of developments in that field and relate them to our safety and regulatory responsibilities.

When these or other dangerous cargoes have been spilled or leak from vessels, we are faced with acute problems, particularly if the accident occurs in the proximity of residential areas or water supply inlets. Industry cooperation will be essential in meeting these problems. Vessel personnel must be acquainted with the dangers involved, and the urgent need to immediately report such accidents.



SEARCH AND RESCUE

To a seagoing man there is probably nothing more important than how and where assistance might be obtained in an emergency when his ship is many miles from the nearest port. Recently a young crewman on a foreign freighter suffered serious internal injuries. When our New York office was informed of the situation, communication was promptly established with the nearest ship having a doctor aboard. A rendezvous was arranged, and the patient was transferred. When additional surgical supplies were found necessary, these were delivered by airdrop by one of our planes out of Newfoundland.

This young man's life was saved directly as a result of the Atlantic Merchant Vessel Reporting System. Through the cooperation of the maritime industry, vessels voluntarily send position reports to our center at New York where modern electronic computers can search the given area for the vessel nearest with the facilities which the emergency requires. This is just one example where modern invention has been applied to the old problem of safety of life at sea.

In another field these technological advancements are contributing to the efficiency of ships and planes used in search and rescue programs. We now have under construction two completely modern cutters which will be powered by a combination of diesel engines and gas turbines. Gas turbines will be used in their motor surfboats and these boats will be raised and lowered in seconds with high speed winches. A most important innovation for a rescue cutter is the helicopter platform to accommodate new amphibious helicopters which will be in service by the first of the year. The ship-helicopter combination will provide greatly increased capability to each. The helicopter will augment the ship's effectiveness in searching and the ship will extend the helicopter's range over water.

AIDS TO NAVIGATION

No nation in the world has a better system of aids to navigation, or a more progressive program, than the United States. Research and development are continuous. Additional aids have been established, our signal ranges are being increased, the newest lights have a candle power ten times that of several years ago, radio beacon transmitters are being replaced with new equipment which will provide more accurate bearings.

A new aid under development is RATAN. This broadcasts, by television, a radar picture of the harbor on which you can identify your own ship and its position in relation to



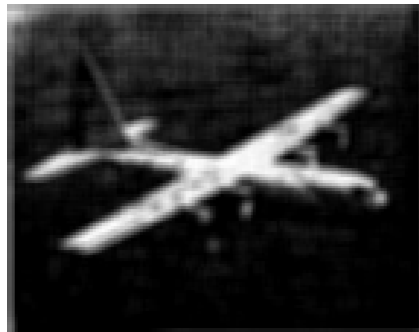
all others as they move about the harbor. We are experimenting with the talking beacon which broadcasts a voice announcement of its true bearing to vessels within a ten mile range. Another aid under development is a new radio range which will enable ships to proceed up channels when visual ranges are obscured. All of these may not become operational; they must be perfected, tested and proven feasible before being placed in service.

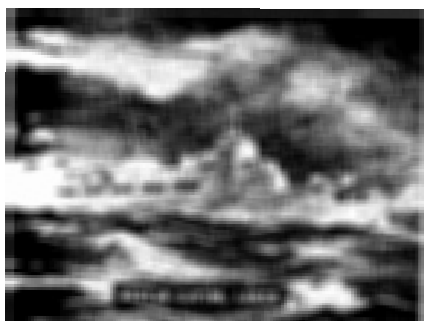
NEW DEVELOPMENTS

In view of our overall responsibility in the marine safety field, we are vitally interested in all new developments, such as nuclear power, hydrofoils, ground effect machines, submarine tankers, and in the problems involved in the construction and operation of ships designed to carry liquefied gases at extremely low temperatures.

Now that the nuclear ship *Savannah* has joined the American merchant fleet, the engineers at Coast Guard Headquarters are applying the experience gained from the *Savannah* program in assessing the safety aspects of a floating nuclear power plant soon to be built. They are also concerned with the unique safety problems of hydrofoil vessels; how they can be reconciled with existing rules and regulations, or what variations may be necessary.

Refrigerated cargo vessels for the bulk movement of certain petroleum and chemical products at exceedingly





low temperatures require for their construction new metals which will not become brittle and fracture at those temperatures.

During the past two years our Technical Division has received a number of proposals for the use of collapsible tanks for the transportation of petroleum products both as tank barges and as deck cargo tanks.

RULES OF THE ROAD

It is evident that in the years ahead the attention of the Coast Guard will be more and more directed to revisions of the Rules of the Road necessitated by ships capable of unusually high speed, such as hydrofoil and ground-effect machines. Also the increasing number of pleasure craft has been of considerable concern in many areas. Existing rules do not differentiate between the small outboard and the SS *United States* but practical considerations should afford the large, less maneuverable vessels certain privileges under certain circumstances.

The last SOLAS convention prescribes that in a narrow channel a power driven vessel of less than 65 feet shall not hamper the safe passage of a vessel which can navigate only inside the channel. To make this rule effective upon the inland waters, certain changes in the law and regulations appear necessary.

Sport submarines, thrill craft, and other unusual pleasure boats have also contributed to the mounting number of questions raised concerning the application of the present rules, and it has become impossible to handle them in the normal routine of business at Headquarters. To provide for the legal, engineering and other research which these questions require, a new Rules of the Road Branch is being established in the Vessel Inspection Division.

AUTOMATION

The Coast Guard is aware of the mounting interest in the possible automation of merchant ships.

To assist in the gathering of meaningful, factual data upon which reasonable predictions may be made of the impact of automation, we are furnishing to the Shipboard Mechanization and Manpower Committee of the National Academy of Science all information available from our records.

Being the principal agency concerned with maritime safety, we will, of course, keep current with developments in this field so that reasonable and adequate standards of safety may be maintained.

OCEANOGRAPHY

The Coast Guard has long been co-operating with other agencies in the oceanographic program because of the strategic location of our ships and stations for making these observations. Last year a new law assigned us specific responsibilities in that activity.

The relationship of marine safety to oceanography may not be immediately appreciated, but all scientific research concerning the sea contributes to the future developments in ship construction and navigation.

RADAR DATA COMPUTER

You will be interested to learn that the new Radar Data Computer has been favorably evaluated in service aboard one of our major cutters and is presently on board the SS *Constitution* for further appraisal. This computer is linked in with the Radar and as many as ten targets can be tracked simultaneously. The officer on watch can crank in a setting for the closest point of approach and if any target is computed to pass within that distance, an alarm indicates that fact.

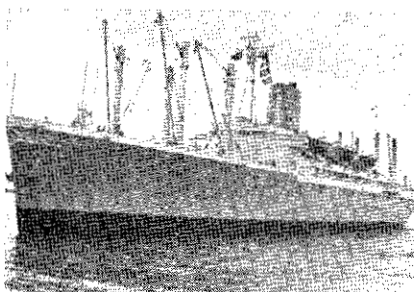
TANKER HAZARDS

Of concern to the Coast Guard and to the tanker industry has been the decision of a Federal Court in the *Mission San Francisco* case. In 1957 that tanker exploded with considerable loss of life, after a collision in the Delaware River. The Court denied a petition to limit liability and said, in substance, that a tanker is unseaworthy if navigated without having her empty cargo tanks either gas-free or inerted. This judicial concept has a definite bearing upon our responsibilities for the regulation of such vessels. The Secretary of the Treasury appointed a committee of outstanding scientists, engineers and transportation experts to study the operation and navigation of these ships and to make recommendations with respect thereto. The Chairman is Herbert Lee Seward, Professor Emeritus of Mechanical and Marine Engineering, Yale University. This

committee has already held 8 meetings, has interrogated numerous industry officials, and has made several field trips to observe actual cargo handling and operating condition. It is expected that some time will elapse before their task is completed.

I have given you only an outline of the three dimensional maritime safety picture . . . the past, present and future . . . as we see it. We realize that the accomplishments of the past and the expectations of the future are, in a very large measure, based upon a high degree of cooperation between the Service I represent and the entire maritime industry.

MAINE MARITIME ACADEMY



SHOWN ABOVE is the 10,000-ton steamship *State of Maine*, the Maine Maritime Academy's latest acquisition, which serves as a floating classroom, laboratory, and cruise ship for the Academy's merchant marine officer candidates. Christened the *Ancon*, the former luxury liner served as a command and communications ship during World War II, and was the press ship at the Japanese surrender in Tokyo Bay in 1945.

An opportunity for a rewarding career at sea is offered to high school graduates by the Maine Maritime Academy, one of the nation's leading institutions of Merchant Marine officer training.

Located at Castine, Maine, the Academy offers a training program which includes winter training cruises to Europe and South America, qualifies students for B.S. degrees in Maritime Science, third officer licenses in the Merchant Marine, and Reserve commissions in the U.S. Navy.

The Academy is administered along military lines, with its faculty composed of officers from the U.S. Navy and Merchant Marine. The superintendent is Rear Admiral George J. King USN (Ret.), a World War II veteran of Bataan and Corregidor.

A vigorous physical expansion program is underway at Maine Maritime, with an enrollment of 490 men expected in 1963.



THE USNS GILLISS, the Navy's newest oceanographic research vessel.

Photo courtesy U.S. Navy

THE USNS GILLISS OCEANOGRAPHIC RESEARCH VESSEL

THE U.S. NAVY'S newest oceanographic research ship, the USNS *James M. Gilliss*, is already at work surveying the oceans. The *Gilliss*, an all-welded, diesel-electric powered ship, is the first U.S. Navy ship built as a result of the TENOC plan.

The U.S. Navy in 1961, released a comprehensive ten-year plan for an oceanographic program. This plan, called TENOC, included requirements for many new oceanographic research and surveying ships.

About the same time as the Navy released its TENOC plan, the National Academy of Sciences-National Research Council released a similar report on oceanography. Among other things, the NAS-NRC report called for manning oceanographic research ships with civilian crews. The *Gilliss* and many of the later oceanographic ships will follow this recommendation.

The ship is under the technical control of the Commander, U.S. Naval Oceanographic Office. The scientific staff will consist of civilian scientists of the Oceanographic Office and various other Navy laboratories. The Navy's Military Sea Transportation Service will operate the ship under U.S. Coast Guard-approved manning scales.

The ship's complement includes the Master, 2 deck officers, radio officer, Chief Engineer, 2 assistant engineers, Purser, and Chief Steward. The crew includes 6 seamen, 1 electrician, 3 oilers, 1 wiper, 2 cooks, 2 messmen, and

2 utility men. Scientific personnel will be limited to 15 persons.

The *Gilliss* carries the designation AGOR-4 (Auxiliary, General, Oceanographic Research). She and her sister ship (USNS *Charles H. Davis*, AGOR-15) were both built at the Christy Corporation shipyard in Sturgeon Bay, Wisconsin.

DESIGN OBJECTIVES

In designing the ships, several basic requirements had to be met:

(1) The ships had to be of a size adequate to conduct all desired surveys.

(2) They had to be capable of all-weather operations with special emphasis on stability in rough seas.

(3) They had to be capable of maintaining positive heading and steering control from zero speed to top speed in calm water or in winds up to 25 knots.

(4) They had to possess a wide, flexible speed range—from 0 to approximately 15 knots.

(5) They had to be capable of quiet-ship operations.

With these design objectives in mind, naval architects developed the SCB-185 design. In this work, Bureau of Ships personnel were guided by technical requirements of the Oceanographic Office, Navy laboratories, and private oceanographic institutions.

The resulting ship design was the SCB-185 class.

This class has the following characteristics:

Length	209 Feet
Beam	37½ Feet
Loaded Draft	15 Feet
Displacement	1,370 Tons

This size is adequate to permit full scale oceanographic observations. At the same time, the ship is small enough to be operated by relatively few crew members. The ideal research ship ratio is 1 scientist to 1 crew member. Although this class does not meet the ideal requirements, it does have a much more favorable ratio than other research ships.

With its raised focsle head, the ship possesses good seakeeping abilities. To increase stability, there are 4 special passive antirolling tanks incorporated into the hull. Active equipment such as fins would have been impracticable; during quiet ship operations no unnecessary machinery can be in operation.

When on oceanographic stations, it frequently is necessary to proceed at low speeds or even to stop the ship. Wind, sea, or swell often make it difficult to maintain the necessary position or heading; with many cables over the side, it is absolutely necessary that the ship maintain the same heading. Otherwise cables may become fouled, and expensive survey equipment may be lost. To maintain the necessary heading, a special bow propulsion unit has been provided.

When underway, this unit is retracted into the hull bottom. On oceanographic stations, it can be lowered and controlled from the bridge. Its 3-foot diameter propeller can be rotated to give the needed directional stability to the ship. Power may be supplied by a separate gas turbine generator.

A diesel-electric main propulsion unit rated at 1,000 HP gives a wide speed range from 0 to 15 knots. Large diesel generators are coupled together to provide power to the single screw.

For special oceanographic surveys, an acoustically quiet ship is needed. To provide these capabilities, all piping throughout the entire ship is acoustically isolated, as are the generators. This isolation is accomplished primarily by sound isolation mounting and extends even to pipe fittings.

The bridge and associated equipment have been designed for ease in conducting oceanographic research. An open bridge extends across the entire front of the pilot house. Each bridge wing contains a gyro repeater stand and a signal searchlight. The starboard wing, in addition, contains an engineering operating station (EOS). Here are located controls for starting, stopping, and regulating either the main propulsion unit or the auxiliary propulsion unit located in the bow.

All pilot house windows are installed in a sloped position to prevent glare. Their arrangement and equipment is varied to provide windows that open, windows with wipers, and heated windows. Because the ship is less than 350 feet long, a ship's bell only is needed as an at-anchor

fog signal. This bell is located on the front of the pilot house.

NAVIGATION EQUIPMENT

A Mark 26 gyrocompass with course recorder and repeaters provide directional control. To aid in maintaining speed and position information, the ship has an electromagnetic speed and distance log and a modified dead reckoning tracer (DRT). Information from these is fed into recorders located in the pilot house or chart room.

On an oceanographic research ship, the echo sounder has a dual function. It is used not only as an aid to navigation of the ship, but also as a data collector of ocean depths. Consequently, a Deep Echo Sounder capable of sounding depths to 6,000 fathoms is aboard the *Gilliss*. Depths are displayed on a Precision Graphic Recorder; this recorder has a paper trace more than 18 inches wide and traces can be read to one fathom.

The surface search radar installation has the console located in the pilot house and the antenna atop the foremast. In addition to the usual radio equipment required to meet FCC standards, the ship has a complete radio telephone installation. Several whip antennas service this equipment.

The radio direction finder loop antenna is mounted on front of the foremast; the RDF receiver is located in the chart room.

Loran-A and Loran-C receivers will provide positional accuracy needed for surveying operations. Space also has been allocated for installation of additional navigational equipment as it becomes available.

OTHER EQUIPMENT

Permanently mounted fore-and-aft anchor lights are controlled from the bridge as are three permanently mounted lights on the mainmast. These three lights (red-white-red) serve dual purposes—as not-under-command lights and as underwater task lights.

Lifesaving equipment complies with USCG regulations. Two 41-person lifeboats (one each, port and starboard) are carried in crescent-type gravity davits serviced by electric boat-hoisting winches. There also are two 6-man inflatable lifeboats.

Because the ship has no true cargo-carrying capabilities, conventional cargo gear is not needed. Lifting capacity is needed, however, especially, aft, where the 33-foot auxiliary boat and other heavy oceanographic equipment are carried. A 10-ton crane located on the starboard side aft of the stack provides the necessary lifting capacity. This crane has an electro-hydraulic power unit.

MIDSHIPS FACILITIES

All living accommodations are air conditioned. Ship's officers have individual rooms. The crew are, in general, berthed 2 men to a room. Accommodations for the 15 scientists are also on a 1- or 2-man per room basis.

Officers and scientists share a dining saloon having two 6-man tables. The crew mess has two 4-man tables. There are 2 laundry rooms—one for the officers and scientists and one for the crew. Each laundry room has an automatic washer and an electric clothes dryer.

The ship's machine shop has capabilities for repairing oceanographic equipment as well as ordinary ship upkeep. Equipment includes a lathe, drill press, grinders, vises, workbenches, and test switch boards.

RESEARCH OBJECTIVES

The basic objective of oceanographic research is simple—to learn more about the oceans. Man is interested in the oceans for a number of reasons. Among these reasons are use of the oceans (1) as carriers of commerce, (2) as a source of food, and (3) for military reasons.

The common factor linking all of these reasons is science. Oceanography as a science is often divided into three categories—physical, chemical, and biological. Each of these categories contributes to one another and to the reasons why man wants to know more about the oceans.

Physical oceanography, for example, is concerned with meteorology, air and sea temperatures, tide, current, sea and swell, and sea ice.

Chemical oceanography is concerned with salinity, oxygen content, pH, and nutrient concentration.

Biological oceanography is concerned with marine organisms such as fish, plankton, and bottom-fouling organisms.

OCEANOGRAPHIC RESEARCH

Oceanography has long depended on cooperating merchant ships to provide physical oceanographic data such as meteorological observations, air and sea temperatures, and sea and swell observations. In addition to the standard observations taken by merchant ships, the *Gilliss* will be outfitted with special oceanographic equipment and instrumentation.

Anemometers and wind vanes will give accurate indications of wind speed and direction. Bathythermographs are used to obtain temperature versus depth measurements. Nansen bottle casts provide water samples and temperatures at various depths. Thermistor probes will be capable of giving vertical temperature



Photo courtesy MSTs

CAPTAIN TORSTEN JOHNSON, master of the *Gilliss*.

structures. Current meters are able to give current set and drift and relay this information to the ship. And sea and swell sensors can provide graphic recordings of these related phenomena.

Knowing chemical composition of sea water is important to an oceanographer. Varying salinity and temperature relationships are an indication of ocean current structure; the relationships are analogous to those of the atmosphere, where air temperature is related to geostrophic wind flow. Oxygen content and nutrient concentration are indications of the water's ability to support plant and animal life. To assist in comprehensive analyses of seawater, the *Gilliss* is equipped with a salinometer, gas partitioner (for gas chromatography), spectrophotometer, and a carbon-14 productivity kit.

Although chemical analysis of sea water will indicate the extent or probability of life in the ocean, additional biological information is needed. To determine kinds of life present, the *Gilliss* is equipped with plankton nets and other towing devices such as mid-water trawls. Amount and type of minute organisms present provide an indication of the total fish population in an area.

GEOPHYSICAL RESEARCH

Oceanographic research carried on by the *Gilliss* will not be limited to oceanography alone. At the same time as oceanographic measurements are being taken, geophysicists will also be at work. A gravity meter will measure the force of the earth's gravitational field. These measurements contribute to a better understanding of the earth's composition, shape, and dimensions. This knowledge, in turn, contributes to standardization of maps and charts related to the same reference datum.

Other geophysicists will be using a magnetometer to measure the total intensity of the earth's magnetic field. By correlating this type of information with geologic data, scientists gain a better understanding of the earth's crust.

Geologists will be studying the results of echo sounder traces. These results will be interpreted to provide a better insight into the nature and composition of the ocean floor. And on oceanographic stations, deep sea coring devices, bottom grabs, and underwater cameras will provide actual samples or photographs of the bottom. The mariner benefits directly from these activities. In shallow water, the information tells the mariner if his anchor will hold or drag; in deeper water, it tells him if he

can expect to get sharp returns on his echo sounder.

APPLIED RESEARCH

Woven throughout all this scientific knowledge is the need to provide our military forces with better information than known by anyone else. Oceanography can be applied to military needs in many ways. For example, temperature structure and bottom composition play a big part in understanding sound wave propagation in the oceans. A destroyer captain is just as concerned with detecting a submerged submarine as his merchant ship counterpart is with detecting hidden dangers on the ocean bottom.

If the Navy's antisubmarine warfare units know the location of natural anomalies in the earth's magnetic field, they can better evaluate other anomalies such as those caused by submerged submarines or wrecks. Here again, applied science benefits our armed forces.

The entire field of oceanographic research is vast—it is truly the earth's last frontier. Man has always been earthbound, but in many respects, he knows less today about the oceans than he does about the moon. The *Gilliss* and its contemporary oceanographic research ships can provide the means toward man's understanding and use of the oceans.

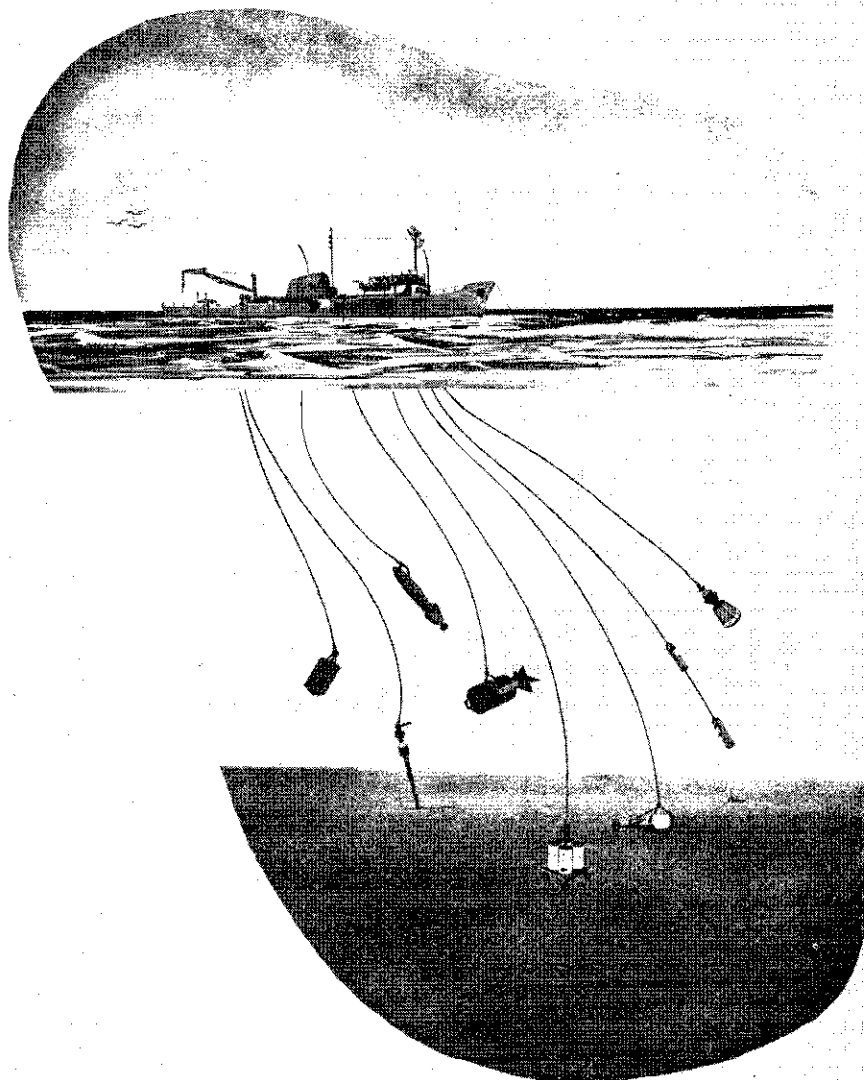


Photo courtesy U.S. Navy

SCHEMATIC DRAWING portraying some of the sensing elements that are employed in acquiring knowledge of the underwater kingdoms. It should be noted that in reality a vessel would never lower all these instruments at the same time, for obvious reasons.



MARITIME SIDELIGHTS

There were 903 vessels of 1,000 gross tons and over in the active ocean-going U.S. merchant fleet on November 1, 1962, 18 more than the number active on October 1, 1962, according to the Merchant Marine Data Sheet released by the Maritime Administration, U.S. Department of Commerce.

There were 25 Government-owned and 878 privately owned ships in active service. These figures did not include privately owned vessels temporarily inactive, or Government-owned vessels employed in loading storage grain. They also exclude 23 vessels in the custody of the Departments of Defense, State, and Interior, and the Panama Canal Co.



A new Humble Oil & Refining Company towboat was christened the *Esso West Virginia* recently in Nashville, Tenn. It was built at the Nashville Bridge Company yards. Pushing an integrated eight-barge tow, the towboat will transport more than 7½ million gallons of oil products. The towboat and its barges will be 1,195-feet long, just five feet shorter than the combined length of four football fields.



Lykes Bros. Steamship Co. has taken delivery of the *Marjorie Lykes*, 12th new Cargoliner in its fleet replacement program. The new vessel is 495-feet long, has a beam of 69 feet and is completely air-conditioned.



The third 3,500 horsepower tug to join the Moran fleet in little more than a year has been launched at Oyster Bay, Long Island. The keel for a fourth tug of the same horsepower was laid immediately following the launching. The new vessel, which is a sister to the *Patricia Moran*, was named the *Kerry Moran*. These 108-foot tugs, with exceptional maneuverability and power, are especially designed to handle the largest of the ships in service and under construction today.



SS *AFRICAN SUN*, one of six 572-foot cargo-liners being built for Farrell Lines by Ingalls Shipbuilding Corporation, shown on dock just prior to her recent launching.

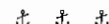


Farrell Lines' new flagship, the *African Comet*, arrived in Boston recently after a record-breaking maiden voyage to South and East Africa, according to the marine press. On her outward passage she established a record between New York and Cape Town of 12 days, 16 hours and 22 minutes and averaged 21.31 knots for the 6,786-mile run. On her return passage from Cape Town to Boston, the *African Comet* averaged 20.7 knots. Her running time for this passage was 13 days, 14 hours. On her fastest day's run for the entire trip, she averaged 22.7 knots. She carried a cargo of wool, starch, sisal, coffee and tea for Boston.



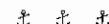
Todd Shipyards Corporation's San Francisco Division has completed the jumboization of the T-2 tanker *Trojan* and delivered her for the Burco Shipping Company. The *Trojan* was the fifth T-2 tanker to be jumboized and brings to eight the number of Todd-jumboized vessels contracted for in the last two years.

The third edition of chart 411, Cape Henlopen to Indian River Inlet, Delaware, has been published by the Coast and Geodetic Survey, U.S. Department of Commerce. The new edition supersedes the navigation chartlets issued shortly after the Atlantic storm of March 1962. The extensive changes in shoreline and bottom configuration resulting from the disastrous Atlantic storm are depicted in this edition. Hydrographic surveys and aerial photography accomplished after the storm by the Coast and Geodetic Survey were used to portray its after effects. Of special interest are those changes which occurred in the vicinity of Cape Henlopen.



The *Adabelle Lykes*, 11,000 dead-weight-ton cargo-liner being built for the Lykes Lines, was launched at the Bethlehem Steel Company Sparrows Point shipyard recently.

This is the ninth of twelve ships being built as a part of Lykes Lines multi-million dollar fleet replacement program.



A record volume of grain moved out of the Great Lakes ports during the 7-month navigational season that ended Oct. 30, 1962.

More than 200,000,000 bushels of grain—oats, flaxseed, rye, barley, soybeans, corn and wheat—were shipped out of the ports, according to the Great Lakes Commission.

The bulk of the grain—80 percent of it—moved overseas. The balance went to domestic and Canadian ports.



United States Lines Co. has signed a contract with Sun Shipbuilding and Drydock Co. for construction of five cargo vessels for U.S. Lines at the builder's Chester, Pa., yard.

These vessels represent the third group of replacement ships in U.S. Lines' overall 43 vessel program. One has been delivered, one other is to be delivered this month and nine are under construction.

The latest five—to be operated on the U.S. Atlantic and Gulf to Australia route—are of 13,200 deadweight tons, are 534 feet in length and can make 20.3 knots.

RENEWAL OF DECK OFFICERS' LICENSES

RULES OF THE ROAD EXERCISE

GREAT LAKES

Navigation and Vessel Inspection Circular 4-62 contains additional Rules of the Road questions to be answered by deck officers renewing their licenses. Questions from 4-62 will be reprinted in the PROCEEDINGS until all of them have been published.

RULES OF THE ROAD—GREAT LAKES

1. You are underway during the daytime and observe the operator of a motorboat on your starboard bow slowly and repeatedly raising and lowering his arms outstretched to each side. You should:

- (a) Acknowledge by repeating the passing signal
- (b) Stand clear as the vessel is engaged in hydrographic surveying
- (c) Stand clear as the vessel is engaged in fishing
- (d) Render assistance as the vessel is in distress

(See Pilot Rule 90.15 as amended by FRR 20-60)

2. Risk of collision is indicated when an approaching vessel's bearing remains constant.

- (a) True
- (b) False

(See Pilot Rule 90.02)

3. The continuous sounding of a fog signal apparatus gives definite indication that a vessel is:

- (a) Aground
- (b) Not under command
- (c) In distress
- (d) Maneuvering with difficulty

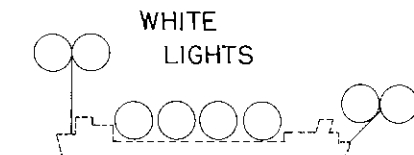
(See Pilot Rule 90.15)

4. When two vessels meet in narrow channels where there is a current, the vessel going against the current has the right-of-way.

- (a) True
- (b) False

(See Rule 24)

5. If you saw the lights of a vessel, as sketched below, you should identify it as:

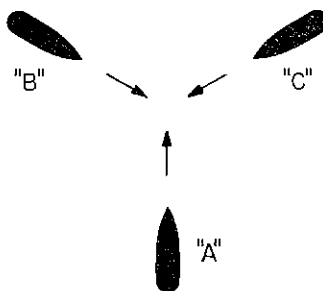


- (a) A vessel less than 150 feet at anchor
- (b) A vessel 150 feet or upward in length at anchor
- (c) A vessel aground
- (d) A vessel towing

(See Rule 9)

6. If you are in charge of the navigation of vessel "A" and saw vessels "B" and "C" crossing your course as sketched, your action should be governed by:

- (a) Rule 27 (Departure from rules)
- (b) Rule 28 (Precautions)
- (c) Rule 17 (Steam vessels meeting end on)
- (d) Rule 18 (Steam vessels crossing)



7. A sailing vessel has the right-of-way over a steamer except when the sailing vessel is overtaking the steamer.

- (a) True
- (b) False

(See Rule 22)

8. You observe a vessel ahead approaching on a reciprocal course. After the whistle signals for a port to port passage are given and answered, you see the other vessel apparently altering course to her port. You should:

- (a) Insist upon the port to port passage by again sounding one blast
- (b) Also alter course to starboard and sound two blasts of the whistle

(c) Sound five or more short and rapid blasts of the whistle and slacken speed or stop or reverse, if necessary

(d) Proceed with caution until it is apparent as to what the other vessel's intentions are

(See Pilot Rule 90.2)

9. A sailing vessel, on the approach of any steamer during the nighttime, shall show in addition to her side lights ----- upon that point or quarter to which such steamer shall be approaching.

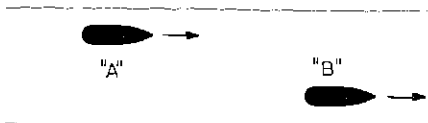
- (a) Two red lights
- (b) Two white lights
- (c) A red light
- (d) A lighted torch

(See Rule 12)

10. You are in charge of the navigation of vessel "A" in a narrow channel less than 500 feet in width, and observe that you are overtaking vessel "B" ahead. You should not attempt to pass the vessel ahead unless she be disabled or indicates her willingness to be passed.

- (a) True
- (b) False

(See Rule 25)



11. If your vessel was displaying the black day signal as sketched, which of the following sets of lights should she show at night:

- (a) Two red lights in a vertical line and the colored side lights
- (b) Two red lights in a vertical line and the proper anchor lights

(c) White range lights, colored side lights and two red lights

(d) Three red lights in a vertical line

(See Rule 30)



12. Whenever a steam vessel is nearing a short bend or curve in the channel where due to the height of the banks a vessel could not be observed approaching from the opposite direction, she shall sound at least _____ when within _____ of the bend.

- (a) Six second blast—one mile
- (b) Eight second blast—one-half mile
- (c) Four second blast—one-half mile
- (d) Ten second blast—one mile

(See Pilot Rule 90.6)

13. If the signal given by a vessel nearing a bend in the channel is answered then the usual signals for meeting and passing shall not be given until the two vessels are in sight of one another.

- (a) True
- (b) False

(See Pilot Rule 90.6)

14. If in an overtaking situation the vessel ahead does not deem it safe to be passed by the vessel astern, she shall immediately signify the same by sounding:

- (a) Several short and rapid blasts of the whistle, not less than five
- (b) One blast in answer to two blasts
- (c) Cross signals
- (d) One long blast of the whistle

(See Pilot Rule 90.5)

15. You are in charge of the navigation of vessel "A" and observe vessel "B" approaching from four points abaft your starboard beam as sketched in position #1. A subsequent alteration of the bearing locates

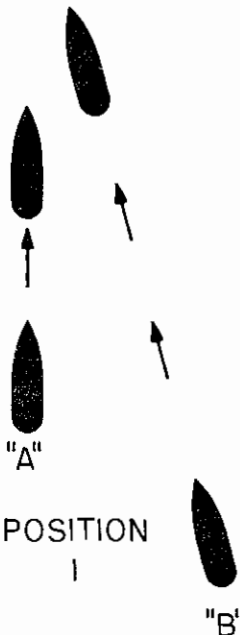
vessels "A" and "B" at position #2. You are:

- (a) Now the burdened vessel in a crossing situation
- (b) Now the privileged vessel in a crossing situation
- (c) Still privileged as in the original overtaking situation
- (d) Still burdened as in the original overtaking situation

(See Pilot Rule 90.8)

POSITION

2



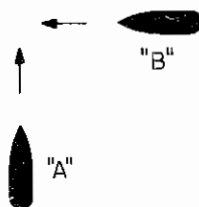
POSITION

1

16. In the situation sketched, the signal given by "A," in response to the same signal sounded by "B," which indicates "A's" intention to direct her course to starboard and pass astern of "B" or otherwise keep out of the way is:

- (a) One blast of the whistle
- (b) Two blasts of the whistle
- (c) Three blasts of the whistle
- (d) Five or more short and rapid blasts

(See Pilot Rule 90.10)



17. A canal boat which is towed by being pushed ahead of a steam vessel may in addition to side lights carry an amber light at the extreme forward end of the tow as near the centerline as it is practicable to carry such light.

- (a) True
- (b) False

(See Pilot Rule 90.19a)

18. A vessel displaying the signal sketched would be:

- (a) Aground
- (b) Servicing an aid to navigation
- (c) Taking on or discharging an inflammable cargo
- (d) In distress
- (e) Identified as a man of war

(See Pilot Rule 90.15)



19. A steam vessel is being towed astern of another steam vessel. If the towed vessel is solely dependent upon the towing vessel for her maneuverability, she should be lighted with:

- (a) Green and red side lights and a bright light aft not visible forward of the beam
- (b) A white light at or near the bow and a white light at or near the stern
- (c) Green and red side lights and an amber light aft
- (d) Two red lights in a vertical line and the red and green side lights

(See Rule G)

20. Ferryboats, other than double-ended ferryboats, shall:

- (a) In addition to the side lights carry two white lights at equal altitude forward and aft
- (b) Be lighted as any other steam vessel
- (c) Carry two white lights forward and two aft

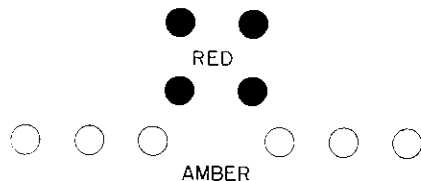
(See Pilot Rule 90.18)

21. If you observed the red lights and accompanying amber lights, as sketched ahead at night, you should determine it to be:

- (a) A tug without a tow not under command
- (b) A vessel at anchor

- (c) An opening in a pipeline for the passage of vessels
(d) A vessel aground

(See General Regulation 201.7)



22. A vessel intending to pass a dredge or floating plant that is working in a channel shall, when within a reasonable distance and not in any case over a mile, sound as a signal of such intention:

- (a) One short blast
(b) Three blasts
(c) Two short blasts
(d) One long blast

(See General Regulation 201.10)

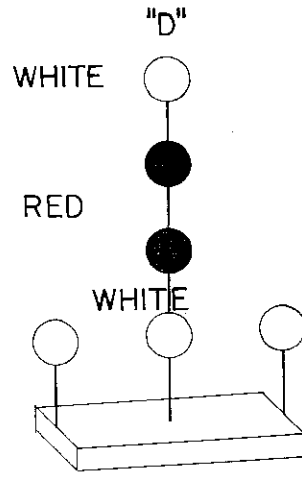
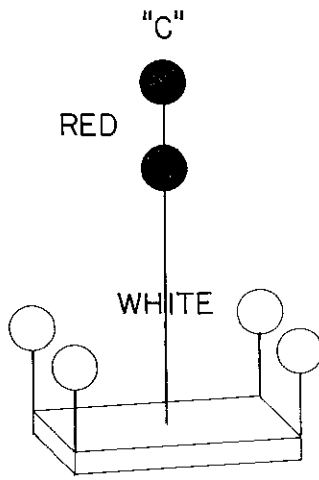
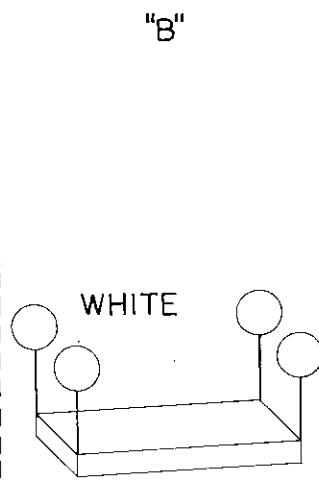
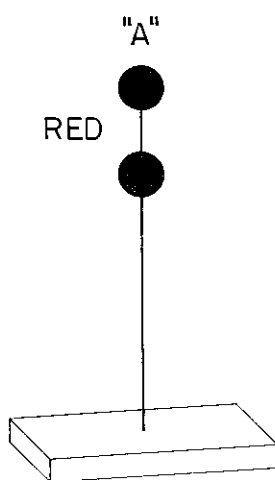
23. At night, you observe a distant vessel's range lights and red side light on your starboard bow. If the range lights continue to open, you should expect that vessel to:

- (a) Pass astern of you
(b) Be on a collision course with you
(c) Pass ahead of you

24. Which of the following sets of lights would indicate a dredge held in

a stationary position by moorings or spuds?

(See General Regulation 201.4)



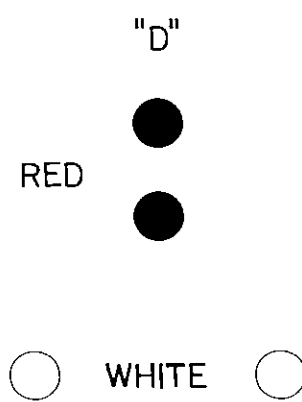
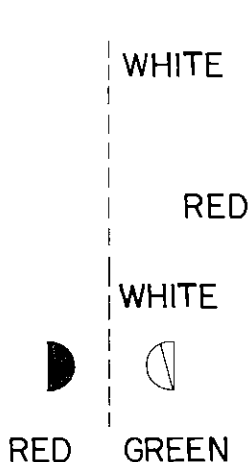
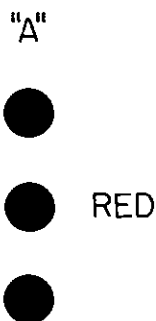
25. Match the lights as sketched with the class of vessel denoted.

- (a) Towing vessel towing a submerged object

- (b) Vessel moored over a wreck
(c) Vessel anchored and engaged in laying cable

- (d) Self-propelled suction dredge 100 feet or less in length

(See General Regulations 201.2, 201.3, 201.5, and 201.6)



BREAKDOWN OF TEXT OF AMVER MESSAGES

1 NAME	2 CALL SIGN	3 REPORT TYPE	4 POSITION	5 DATE—TIME	6 SAILING ROUTE	7 SPEED	8 DESTINATION	9 ETA
Name of vessel...	Radio call	1, D, 2, or 3.	Latitude and longitude to nearest tenth degree (name of point may be used where convenient. i.e. Ambrose)	Date—Time GMT of posi- tion. (Use 6 digits, i.e. 041800 where first 2 is date of month and last 4 are GMT hours and minutes.)	Latitude and longi- tude to nearest 0.1 degree of each turn point along in- tended track. Use "RL" for rhumb line, or "GC" for great circle before each point to show method of sailing. When track is to be coastal, state "coastal" for that part of route.	To nearest 0.1 knot.	Next port of call. (Note: for U.S. port located inland, it is recom- mended that the off-shore point i.e. Cape Henry, etc. be given.)	Esti- mated time of arrival at desti- nation. Use GMT date and time

SAMPLE MESSAGES

Imperial St. Lawrence	HOOX	1	43.5N 70.1W	281100	RL 41.6N 69.7W RL via Windward Passage RL.	15.7	Colon	030900
Parthia.....	GSWQ	1	51.0N 10.3W	092300	GC 42.0N 50.0W RL 40.5N 69.5W RL.	16.5	New York	151100
Argentina.....	WMDU	1	Ambrose	061300	GC Equator at 37.0W	23.0	Rio de Janeiro.	160100
Sagami Maru....	JJGF	1	40.5N 73.3W	301300	Coastal RL.....	17.1	Overfalls.	301800
J. L. Luckenbach.	KAEO	D	31.0N 78.0W	261500	.....	9.0	In heavy seas....	.....
Groote Beer.....	PELA	2	39.1N 67.0W	061400	.....	15.4	.....	.....
Godafos.....	TFMA	2	42.4N 67.3W	232300	.....	.....	.....	.....
Alcoa Pilgrim...	KKVZ	3	QTP South Pass	092300	.....	.....	.....	.....

WHO ACCEPTS AMVER MESSAGES?—A list of U.S. Coast Guard Radio Stations and Ocean Stations accepting AMVER messages; the frequencies and/or bands guarded by each, and their working frequency in each band is tabulated below:

CG unit's radio call	Unit's location	Frequency and/or HF bands guarded		CG unit's work- ing frequency	CG unit's radio call	Unit's location	Frequency and/or HF bands guarded		CG unit's work- ing frequency
		Day	Night				Day	Night	
NMF	BOSTON, MASS.	500 KC 8 MC	500 KC 8 MC	472 KC 8734 KC	NJN	ARGENTIA, NPLD.	500 KC 8 MC 12 MC	500 KC 8 MC 8 MC	427 KC 6477.5 KC 8734 KC
NMY	NEW YORK, N.Y.	500 KC 8 MC	500 KC 8 MC 4 MC	485 KC 8710 KC 4361 KC	NOC	BERMUDA, B.W.I.	500 KC	500 KC	490 KC
NMH	WASHINGTON, D.C.	12 MC 18 MC	12 MC	12718.5 KC 17002.4 KC	NMR	SAN JUAN, P.R.	500 KC 8 MC 12 MC	500 KC 4 MC 8 MC	466 KC 4361 KC 8710 KC
NMN	NORFOLK, VA.	500 KC 8 MC	500 KC 8 MC	466 KC 8734 KC	NBA*	BALBOA, C.Z.	500 KC 8 MC 12 MC 16 MC	500 KC 4 MC 8 MC 12 MC	470 KC 4352 KC 8614 KC 12883 KC
NMY	JACKSONVILLE, FLA.	500 KC 8 MC	500 KC 8 MC	457 KC 8734 KC	4VB	58-30N 81.00W	500 KC	500 KC	466 KC
NMA	MIAMI, FLA.	500 KC 8 MC	500 KC 8 MC	440 KC 8710 KC	4YC	52-45N 35-20W	500 KC	500 KC	466 KC
NOF	ST. PETERSBURG, FLA.	500 KC	500 KC	440 KC	4YD	44-00N 41-00W	500 KC	500 KC	466 KC
NMG	NEW ORLEANS, LA.	500 KC 8 MC	500 KC 4 MC	428 KC 4361 KC 8710 KC	4YE	35-00N 48-00W	500 KC	500 KC	466 KC
NOY	GALVESTON, TEX.	500 KC	500 KC	457 KC	* U.S. NAVY COMMUNICATION STATION				

NOTE: U. S. INTERDEPARTMENT RADIO ADVISORY COMMITTEE
(IRAC) DEFINITIONS:
DAY - 2 HOURS AFTER SUNRISE UNTIL 2 HOURS BEFORE SUNSET.
NIGHT - 2 HOURS BEFORE SUNSET UNTIL 2 HOURS AFTER SUNRISE.
(LOCAL TIME OF RADIO STATION)
SCHEDULE MAY BE CHANGED DUE TO PROPAGATION.

USCG, NY- 31 OCTOBER 1962

of SAR capability and intentions of vessels is time-consuming. Communications must be held to a minimum during a distress. Many emergencies require immediate decisions and action. The AMVER Center provides much valuable information concerning those vessels participating in the AMVER program, thereby making possible more timely assistance during emergencies.

AMVER PARTICIPANTS

A vessel is a participant in the AMVER program when she sends a report to the AMVER Center during a passage. An AMVER participant is under no greater obligation to render assistance during an emergency than any vessel who has not made a report during the passage. There is no limitation as to the size of a vessel before she may participate in the AMVER program. This is determined by nature of passage and communication capability.

SAR CHARACTERISTICS OF MERCHANT VESSELS

In addition to the information generated from movement and position reports, the AMVER Center maintains data on the characteristics of active merchant vessels. This data which reflects SAR capability includes the following: Vessel name; international call sign; nation of registry; owner or operator; type or rig; type of propulsion; gross tonnage; length; normal cruising speed; radio schedule; HF and VHF radio frequencies; radio telephone installed; surface search radar installed; doctor normally carried. Vessels can assist the AMVER Center in keeping this data accurate by sending a complete report by message or letter, and then sending corrections as the characteristics change. The corrections may easily be included in regular AMVER reports as remarks.

CONSTRUCTIVE COMPLIANCE

AMVER messages which include the necessary information are considered to be in constructive compliance with provisions of the U.S. Code of Federal Regulations, Title 33, Part 124.10, as revised on 1 January 1962. This regulation requires, with certain exceptions, that the master or agent of each United States registered vessel and every foreign vessel arriving at a United States port (including the Great Lakes) from an off-shore passage, give advance notice to the U.S. Coast Guard at least 24 hours prior to arrival. The U.S. Code of Federal Regulations should be consulted to determine the exact current requirements, the exceptions, and the conditions of constructive compliance. The

AMVER Center forwards pertinent information to the appropriate Coast Guard officials.

AMVER SYSTEM COMMUNICATION NETWORK

An effective communication network supports the AMVER System. It provides three routes for assistance messages as well as AMVER messages.

Atlantic Merchant Vessel Report (AMVER) System, operated by the United States Coast Guard, is a maritime mutual assistance program which provides important aid to the development and coordination of search and rescue (SAR) efforts in the offshore areas of the North Atlantic Ocean, Caribbean Sea and Gulf of Mexico, north of the Equator and west of Prime Meridian. Merchant vessels of all nations making offshore voyages are encouraged to voluntarily send movement (sailing) reports and periodic position reports to the AMVER Center located at Coast Guard New York, via selected U.S. coastal, extra continental, or Ocean Station Vessel radio stations. Information from these reports is entered into an electronic computer which generates and maintains dead reckoning positions for the vessels while they are within the plotting area. Characteristics of vessels which are valuable for determining SAR capability are also entered into the computer from available sources of information. Appropriate information concerning the predicted location and SAR characteristics of each vessel known to be within the area of interest, is made available upon request to recognized SAR agencies of any nation, or persons in distress, for use during an emergency. Predicted locations are only disclosed for reasons related to maritime safety.

These routes are: coastal, overseas, and Ocean Station radio stations. Propagation conditions, location of vessel, and message density will normally determine which station may best be contacted to establish communications. To insure that no charge is applied, all AMVER messages should be passed through specified government radio stations. Stations which currently accept AMVER messages and apply no coastal station, ship station, or landline charge are listed in the table accompanying this article together with respective call sign, location, frequency bands, and hours of guard. AMVER messages may be sent through commercial stations, but the Coast Guard cannot reimburse the sender for any charges applied.

AMVER MESSAGE ADDRESS

All AMVER messages are addressed to COAST GUARD NEW YORK, regardless of the station to which the message is delivered.

AMVER MESSAGE TYPES AND FORMAT

Any vessel of any nation departing on an offshore passage, a significant part of which is north of the Equator and west of the Prime Meridian (0° Longitude) in the North Atlantic Ocean, Caribbean Sea, or Gulf of Mexico, is encouraged to become a participant in the AMVER System by sending appropriate AMVER messages in four types of formats illustrated. The messages may be transmitted at any convenient time as long as the information is accurate and the data corresponds to the time specified. The information may be estimated for a short time in the future, for the present, or for a short time past.

The four types of reports are:

TYPE 1

The complete Type 1 report consists of 9 parts and any pertinent remarks, and contains the information necessary to initiate a plot. It is called an initial AMVER message and may be considered a movement report or sailing plan. Type 1 reports may be sent immediately prior to departure, at departure, immediately after departure, or upon entering the Plotting Area, as soon as adequate communications can be established. If the point of departure is not within the Plotting Area, the initial Type 1 report should specify the estimated position, date, and time of entry into the Plotting Area, or a supplemental Type 1 or Type 2 report may be sent upon actual entry into the Plotting Area.

TYPE D

The Type D report is a deviation report and need include only information which differs from that previously reported. It is sent when the actual position will vary more than 25 miles from the position which would be predicted based upon data contained in previous reports. It may indicate a change of route, course, speed, or destination, and include any pertinent remarks.

TYPE 2

The Type 2 report is considered a position report and includes the date and time of the position. It may contain additional entries and remarks. Experience has shown that occasional position reports are required during long passages to insure that the electronic computer will predict the posi-

tions within acceptable accuracy. It is not important that these position reports be sent at any particular time or location, but it is suggested that they be prepared at intervals of approximately fifteen degrees of latitude or longitude depending upon direction of advance. The revised diagram of the AMVER Plotting Area contains dashed lines at 0, 15, 30, 45, 60, and 75 degrees of latitude and longitude to serve as a reminder that position reports are desired occasionally. Parts 6, 7, 8, and 9 may be omitted from the message if desired. It is no longer necessary that a Type 2 report be sent exactly at 67° W. longitude, however it may be continued if desired.

TYPE 3

A Type 3 report is an arrival report, and is sent upon reaching the harbor entrance at port of destination if within the AMVER Plotting Area, or upon crossing out of the Plotting Area. Parts 6, 7, 8, and 9 may be omitted from the message if desired. Remarks may be included. If communications cannot be established to permit sending the Type 3 report, the electronic computer will automatically terminate the plot at the predicted time of arrival at the destination. However, the report is desired to increase the accuracy of the plot and Type 3 reports are especially desired upon arrival at the harbor entrance of United States ports.

Only these four types of AMVER messages require specific formats. Other operational and administrative messages relating to the AMVER program may use the AMVER System. These may include such things as SAR characteristics of vessels.

ADDITIONAL INFORMATION

Further information concerning the AMVER System may be obtained by writing to Commandant, U.S. Coast Guard, Washington 25, D.C., or by writing or visiting Commander, Eastern Area, U.S. Coast Guard, Custom House, New York 4, N.Y. Officers of the shipping industry and others concerned with maritime safety are welcome to visit the AMVER Center, Room 650A, in the Custom House. Visitors are preferred on weekdays between the hours of 0900 and 1600. The telephone number is currently 212-422-5700, extension 629. The TELEX address is 01-2043. The TWX address is 212-571-0593.



AMENDMENTS TO REGULATIONS

[EDITOR'S NOTE.—The following regulations have been promulgated or amended since the last issue of the PROCEEDINGS. A complete text of the regulations may be found in the Federal Register indicated at the end of each article. Copies of the Federal Register 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 62-48]

PART 146—TRANSPORTATION OR STORAGE OF EXPLOSIVES OR OTHER DANGEROUS ARTICLES OR SUBSTANCES AND COMBUSTIBLE LIQUIDS ON BOARD VESSELS

Dangerous Cargoes

The provisions of R.S. 4472, as amended (46 U.S.C. 170), require that the land and water regulations governing the transportation of dangerous articles or substances shall be as nearly parallel as practical. The provisions in 46 CFR 146.02-18 and 146.02-19 make the Dangerous Cargo Regulations applicable to all shipments of dangerous cargoes by vessels. The Interstate Commerce Commission in Change Order Nos. 55 and 56 has made changes in the ICC regulations with respect to definitions, descriptive names, classifications, specifications of containers, packing, marking, labeling, and certification for certain dangerous cargoes, which are now in effect for land transportation. Various amendments to the Dangerous Cargo Regulations in 46 CFR Part 146 have been included in this document in order that these regulations governing water transportation of certain dangerous cargoes will be as nearly parallel as practicable with the regulations of the Interstate Commerce Commission which govern the land transportation of the same commodities.

The amendments to 46 CFR Part 146 are considered to be interpretations of law, or revised requirements to agree with existing ICC regulations, or relaxations of previous requirements, or editorial in nature, and it is hereby found that compliance with the Administrative Procedure Act (re-

specting notice of proposed rule making, public rule making procedure thereon, and effective date requirements thereof) is unnecessary with respect to such changes.

(Federal Register of December 7, 1962.)

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

[CGFR 62-48]

PART 146—TRANSPORTATION OR STORAGE OF EXPLOSIVES OR OTHER DANGEROUS ARTICLES OR SUBSTANCES AND COMBUSTIBLE LIQUIDS ON BOARD VESSELS

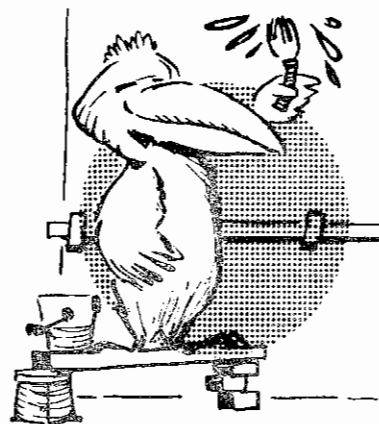
Dangerous Cargoes

Correction

In F.R. Doc. 62-12130, appearing at page 12133 of the issue for Friday, December 7, 1962, the following changes are made:

1. In § 146.04-5, table, first column, the first line should read "Methyl chloride-methylene chloride" instead of "Methyl chloride-methylene";
2. On page 12134, third column, fourth line, the parenthetical phrase should read "(ICC-12P)" instead of "(ICC-12B)";

LEFT-FOOTED GOONY



LATIN TERM: *Awkwardis-Stupidis*. He is the improviser—never walks 10 feet for a ladder when an upturned bucket will do. Generally drags one boom due to a previous accident on a previous ship.

G. Seal

3. On page 12134, third column, fifteenth line from bottom, the parenthetical phrase should read "(ICC-17H, 37A)" instead of "(ICC-17A, 37A)".

(Federal Register of December 20, 1962.)

TITLE 46—SHIPPING

Chapter I—Coast Guard Department of the Treasury

[CGFR 62-52]

VESSEL INSPECTION

Miscellaneous Amendments

The purpose of this document is to publish editorial changes to the regulations in Chapter I of Title 46, Code of Federal Regulations, which will bring the wording up to date or into agreement with present practices or procedures. It is hereby found that compliance with the Administrative Procedure Act (respecting notice of proposed rule making, public rule-making procedures thereon, and effective date requirements) is unnecessary or exempted by specific provisions in section 4 of the Administrative Procedure Act (5 U.S.C. 1003).

The Federal Communications Commission requires the filing of a formal application on FCC Form 801, rather than by letter, when requesting a safety radiotelephony certificate or a safety radiotelegraphy certificate, which are issued under the International Convention for the Safety of Life at Sea, 1948. The change in 46 CFR 2.01-25(b)(3) corrects the description of the procedures to be followed by inserting a reference to FCC Form 801.

The amendment designated 46 CFR 2.50-40(k) describes another type of violations reported, which had been inadvertently omitted. The procedures applicable to the public with respect to the assessment, mitigation or remission of penalties for violations of the Dangerous Cargo Act and regu-

lations in 46 CFR Parts 146 and 147 are the same as for other violations of merchant marine safety laws.

The amendment designated 46 CFR 10.02-5(c)(2) is to remove an inconsistency with other requirements in the same paragraph, and provides that a "Certificate of Naturalization" may be one way in which a naturalized citizen proves citizenship, rather than requiring its submittal in addition to a State Department passport or a commission in the United States Armed Forces.

The applicants for licenses as merchant marine officers and motorboat operators are fingerprinted and the use of Coast Guard Form 2515 has been discontinued for this purpose and in lieu thereof the Coast Guard now uses FBI Form "Applicant." The amendments to 46 CFR 10.02-5(i)(2), 10.13-17(b), 10.15-25(c)(1), 10.20-3(b)(1) and 10.25-7(e)(1) change the various references from Coast Guard Form 2515 to FBI Form "Applicant."

The 1957 revision of State Department regulations transferred the requirements relating to seamen's wages to new parts. The cross references referring to State Department regulations following 46 CFR 16.05 and 16.10 are canceled as they are no longer needed.

The amendments to 46 CFR 53.03-50(h), 55.17-20(a), 73.30-15(a)(2) and 95.20-25(a) are editorial to bring references to other regulations up to date. The amendment to 46 CFR 57.10-5(d)(4) is editorial to clarify the requirements which had been applied incorrectly. This regulation regarding exhaust pipe for gasoline engine installations permits a flexible metallic hose to be used when necessary, and that only when flexible non-metallic hose is used need the exhaust be watercooled. The amendment to 46 CFR 76.15-5 adds headings for the paragraphs regarding carbon dioxide extinguishing systems.

The amendment to 46 CFR 187.05-15(a) changes the mandatory waiting

period from six months to not less than one month before an applicant may be re-examined after failing an examination. The Officer in Charge, Marine Inspection, is permitted to designate an appropriate period of time based on the circumstances of the individual case.

(Federal Register of December 28, 1962.)

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 December 29, 1962 (CGFR 62-47). Copies of these documents may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.]

AFFIDAVIT

The following affidavits were accepted during the period from 15 November 1962 to 15 December 1962:

Minneapolis-Honeywell Regulator Co.,¹ Valve Division, 300 Commerce Drive, Fort Washington, Pa., VALVES AND FITTINGS.

Joseph Kopperman & Sons, Inc.,² 310-16 New St., Philadelphia 6, Pa., FITTINGS.

Elkhart Brass Mfg. Co., Inc., 1302 W. Beardsley Ave., Elkhart, Indiana, VALVES AND FITTINGS.

Kraloy-Chemtrol Co., 402 W. Central Ave., Santa Ana, Calif., VALVES AND FITTINGS.

¹ Currently listed in CG-190 for valves. The listing is hereby annotated to indicate that the listing includes fittings.

² Currently listed in CG-190 dated 2 April 1962 under former name of Joseph Kopperman & Sons, Inc. Correction of name should be indicated for this company.

ACCEPTABLE COVERED STEEL ARC WELDING ELECTRODES

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

Distributors and/or manufacturers	Brand	AWS Class	Operating positions and electrode sizes (inches)				
			½ and smaller	¾	1½	2	2½
Hubert Brothers Co., Troy, Ohio.....	27G-1.....	E6027.....	2		2		2

COUNCIL ACTIVITIES

NOTICE OF PUBLIC HEARING

The Merchant Marine Council will hold a Public Hearing on Monday, 25 March 1963, commencing at 9:30 a.m. in the Departmental Auditorium, between 12th and 14th Streets on Constitution Avenue, NW., Washington, D.C., for the purpose of receiving comments, views and data on the proposed changes in the vessel inspection rules and regulations and the navigation rules and regulations as set forth in Items I to X, inclusive, of the Merchant Marine Council Public Hearing Agenda, CG-249, dated 25 March 1963. This Agenda contains the specific changes proposed and, for certain items, the present and proposed regulations are set forth in comparison form together with the reasons for the changes.

Copies of this Agenda are mailed to persons and organizations who have expressed a continued interest in the subjects under consideration and have requested that copies be furnished them. Copies of the Agenda will be furnished, upon request, to the Commandant (CMC), United States Coast Guard, Washington 25, D.C., so long as they are available. After the supply of extra copies is exhausted copies will be available, for reading purposes only, in Room 4104, Coast Guard Headquarters, or at the offices of the various Coast Guard District Commanders.

Comments on the proposed regulations are invited. Written comments containing constructive criticism, suggestions, or views are welcomed. However, acknowledgment of the comments received or reasons why the suggested changes were or were not adopted cannot be furnished since personnel are not available to handle the necessary correspondence involved. Each oral or written comment is considered and evaluated. If it is believed the comment, view or suggestion clarifies or improves a proposed regulation or amendment, such proposal is changed accordingly and, after adoption by the Commandant, the regulations as revised are published in the Federal Register.

Each person or organization who desires to submit written comments, data or views in connection with the proposed regulations set forth in this Agenda should submit them so that they will be received by the Commandant (CMC), United States Coast Guard Headquarters, Washington 25, D.C., prior to 22 March 1963. Comments, data or views may be presented orally or in writing at the Public Hearing before the Merchant Marine Council on 25 March 1963. In order to insure consideration of written comments and to facilitate checking and recording, *it is essential that each comment regarding a section or paragraph of the proposed regulations be submitted on Form CG-3287, showing the section number (if any), the proposed change, the reason or basis, and the name, business firm or organization (if any), and the address of the submitter.* A small quantity of Form CG-3287 is attached to this Agenda. Additional copies may be reproduced by typewriter or otherwise, or may be obtained upon request from any Coast Guard District Commander.

Each item in the Agenda has been given a general title, intended to encompass the specific proposals presented. It is urged that each item be read completely because the application of proposals to specific employment or types of vessels may be found in more than one item. For example, Item IV contains proposals applicable only to tank vessels, yet Items V and VII also contain proposals affecting tank vessels.

The items in this Agenda are:

- | Item No. | Title |
|----------|---|
| I | SMALL PASSENGER VESSELS (UNDER 100 GROSS TONS) |
| a. | Scope of regulations to include passenger vessels of over 65 feet in length and under 100 gross tons |
| b. | Lounge arrangements for passenger spaces located below deck |
| c. | Portable lights for emergency purposes |
| d. | Patrolmen on vessels with below deck passenger lounge areas |
| II | UNINSPECTED VESSELS |
| a. | Life preservers and other lifesaving equipment |
| b. | Fire extinguishers: Barges carrying passengers |
| c. | Specification for flame arresters, backfire (for carburetors) |
| III | MERCHANT MARINE OFFICERS |
| a. | License examination for chief mate, ocean and coastwise |
| b. | Subjects for engineer officers' licenses of steam or motor vessels |
| IV | TANK VESSELS |
| a. | Remote shutdown of internal combustion engine driven cargo pumps on tank vessels |
| b. | Venting of cofferdams and void spaces of tank vessels |
| c. | Firefighting equipment and precautions |
| d. | Bulk shipments of ethylene oxide |
| e. | Liquefied inflammable gases |
| V | VESSEL OPERATIONS AND INSPECTION |
| a. | Manning of lifeboats and liferafts |
| b. | Manned seagoing barges: Rescue boat requirements |
| c. | Unmanned barges: Ring life buoy requirements |
| d. | Special construction, arrangement, and provisions for certain dangerous cargoes in bulk: Application; elemental phosphorus in water; sulfuric acid; hydrochloric acid; liquid chlorine; and anhydrous ammonia |
| VI | MARINE ENGINEERING |
| a. | Materials and allowable stresses |
| b. | Classification of piping systems |
| c. | Over pressure protective devices in exhaust lines of machinery |
| d. | Bilge piping to watertight compartments |
| e. | Arrangement of fuel oil service piping |
| f. | Fuel system requirements for diesel machinery located on deck |
| g. | Arc welding electrodes |
| h. | Hydrostatic tests for boiler feed and blow piping |
| VII | ELECTRICAL ENGINEERING |
| a. | Definitions, plan submittal, motors, ground detection, general alarm systems, storage batteries, switchboards, controllers, and emergency lighting and power systems |
| b. | Motor enclosures, receptacle outlets, emergency lighting and power system, and smoke detector systems |
| VIII | DANGEROUS CARGOES |
| a. | General description of changes |
| b. | Preface—Penalties for violations |
| c. | List of explosives and other dangerous articles and combustible liquids |
| d. | Detailed regulations governing explosives |
| e. | Detailed regulations governing inflammable solids and oxidizing materials |
| f. | Detailed regulations governing poisonous articles—Radioactive materials |
| g. | Detailed regulations governing hazardous articles |
| h. | Detailed regulations governing the transportation of military explosives and hazardous munitions |
| i. | Power-operated industrial trucks |
| IX | ARTIFICIAL ISLANDS AND FIXED STRUCTURES ON THE OUTER CONTINENTAL SHELF |
| a. | Private aids to navigation |
| b. | Fog signals |
| c. | Identification marks required |
| X | RULES OF THE ROAD |
| a. | Lights for moored barges |
| b. | Regattas and marine parades |
| c. | Starting, stopping and backing signals: Great Lakes |

MERCHANT MARINE SAFETY PUBLICATIONS

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

CG No.	TITLE OF PUBLICATION
101	Specimen Examination for Merchant Marine Deck Officers (7-1-58).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (8-1-62).
115	Marine Engineering Regulations and Material Specifications (2-1-61). F.R. 9-30-61, 9-11-62, 12-28-62.
123	Rules and Regulations for Tank Vessels (1-2-62). F.R. 5-2-62, 9-11-62.
129	Proceedings of the Merchant Marine Council (Monthly).
169	Rules of the Road—International—Inland (6-1-62).
172	Rules of the Road—Great Lakes (6-1-62). F.R. 8-31-62.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (7-2-51).
175	Manual for Lifeboatman, Able Seamen, and Qualified Members of Engine Department (9-1-60).
176	Load Line Regulation (9-1-61). F.R. 7-27-62, 11-14-62.
182	Specimen Examinations for Merchant Marine Engineer Licenses (12-1-59).
184	Rules of the Road—Western Rivers (6-1-62).
190	Equipment Lists (4-1-60). F.R. 6-21-60, 8-16-60, 8-25-60, 8-31-60, 9-21-60, 9-28-60, 10-25-60, 11-17-60, 12-23-60, 12-24-60, 5-2-61, 6-2-61, 6-8-61, 7-21-61, 7-27-61, 8-16-61, 8-29-61, 8-31-61, 9-8-61, 9-9-61, 10-18-61, 11-3-61, 11-18-61, 12-12-61, 2-9-62, 2-17-62, 3-15-62, 4-17-62, 4-25-62, 5-17-62, 5-25-62, 7-24-62, 8-4-62, 8-11-62, 9-11-62, 10-4-62, 10-30-62, 11-22-62, 11-24-62, 12-29-62.
191	Rules and Regulations for Licensing and Certifying of Merchant Marine Personnel (6-1-62). F.R. 10-4-62, 12-28-62.
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (7-1-58). F.R. 3-30-60, 5-6-60, 12-8-60, 7-4-61, 5-2-62, 10-5-62.
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 (8-1-61). F.R. 12-12-61, 8-8-62, 8-31-62, 11-15-62.
249	Merchant Marine Council Public Hearing Agenda (Annually).
256	Rules and Regulations for Passenger Vessels (1-2-62). F.R. 5-2-62, 9-11-62, 12-28-62.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (3-2-59). F.R. 4-25-59, 6-18-59, 6-20-59, 7-9-59, 7-21-59, 9-5-59, 5-6-60, 5-12-60, 10-25-60, 11-5-60, 11-17-60, 12-8-60, 12-24-60, 7-4-61, 9-30-61, 10-25-61, 12-13-61, 5-2-62, 9-11-62, 12-28-62.
258	Rules and Regulations for Uninspected Vessels (9-1-61). F.R. 1-20-62, 4-24-62, 5-2-62, 9-11-62.
259	Electrical Engineering Regulations (12-1-60). F.R. 9-30-61, 9-23-61, 5-2-62, 9-11-62.
266	Rules and Regulations for Bulk Grain Cargoes (5-1-62). F.R. 9-11-62.
268	Rules and Regulations for Manning of Vessels (9-1-60). F.R. 5-5-61, 6-28-61, 12-16-61.
269	Rules and Regulations for Nautical Schools (3-1-60). F.R. 3-30-60, 8-18-60, 11-5-60, 7-4-61, 9-30-61, 12-13-61, 5-2-62, 9-11-62.
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935 (11-19-52). F.R. 12-5-53, 12-28-55, 6-20-59, 3-17-60.
293	Miscellaneous Electrical Equipment List (6-1-62).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (10-1-59). F.R. 10-25-60, 11-3-61, 4-10-62, 8-31-62.
323	Rules and Regulations for Small Passenger Vessels (Not More Than 65 Feet in Length) (6-1-61). F.R. 9-11-62, 12-28-62.
329	Fire Fighting Manual for Tank Vessels (4-1-58).

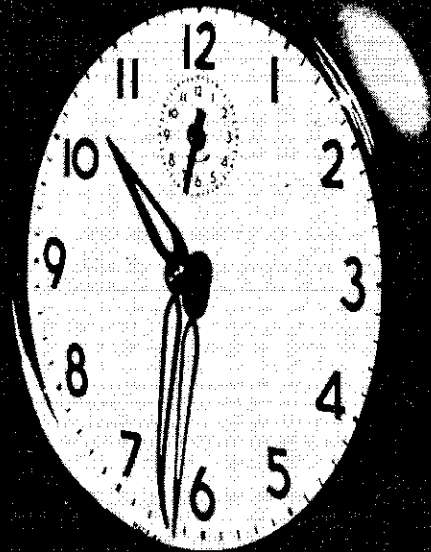
Official changes in rules and regulations are published in the Federal Register, which is printed daily except Sunday, Monday, and days following holidays. The Federal Register is a sales publication and may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. It is furnished by mail to subscribers for \$1.50 per month or \$15 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 in the table of changes below.

CHANGES PUBLISHED DURING DECEMBER 1962

The following have been modified by Federal Registers:
 Dangerous Cargo Regulations, Federal Registers, December 7, and December 20, 1962.
 CG-190, Federal Register, December 29, 1962.
 CG-115, CG-191, CG-256, CG-257, and CG-323, Federal Register, December 28, 1962.

SAFETY SAVES

TIME



WAGES

LIVES

