



PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL



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PROCEEDINGS

OF THE

MERCHANT MARINE COUNCIL

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FRONT COVER

The SS *Ashley Lykes*, 11,000 deadweight ton cargo vessel built for Lykes Lines, shown at her recent launching at Bethlehem Steel Co.'s Sparrows Point Shipyard. This is the 10th of 12 ships being built for Lykes as part of its fleet replacement program. The vessel has an overall length of 495 feet, with a 69-foot beam. She has a dry cargo capacity of 553,474 cubic feet and a cargo oil capacity of 1,078 tons.

BACK COVER

Safety cartoon by G. Seal.

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

NATIONAL SAFETY COUNCIL-AMMI AWARD PRESENTATION

ARTHUR J. NAQUIN (center), president of the Metropolitan New Orleans Safety Council, presents Lykes Bros. Steam Ship Co., Inc., with 22 safety awards on behalf of the American Merchant Marine Institute and National Safety Council. Receiving the awards in the name of their company are R. F. Rader, vice president (right), and Capt. J. B. Rucker, manager, Accident Prevention Division.

The award winners are:

National Safety Council, certificate of commendation, second consecutive year:

SS *Harry Culbreath*
SS *Aimee Lykes*

National Safety Council, certificate of commendation:

SS *Eugene Lykes*
SS *Mallory Lykes*
SS *Sue Lykes*
SS *Velma Lykes*
SS *William Lykes*

National Safety Council, President's Letter:

SS *Charles Lykes*
SS *Fred Morris*
SS *George Lykes*
SS *Jesse Lykes*
SS *Louise Lykes*
SS *Shirley Lykes*
SS *Solon Turman*
SS *Thompson Lykes*

American Merchant Marine Institute, Jones

F. Devlin Award—4 years:

SS *Aimee Lykes*
SS *Harry Culbreath*



American Merchant Marine Institute, Jones
F. Devlin Award—2 years:

SS *Eugene Lykes*
SS *Mallory Lykes*
SS *Shirley Lykes*
SS *Sue Lykes*
SS *Velma Lykes*

DIST. (SDL NO. 76)

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OCEANOGRAPHY

A TRADITIONAL FUNCTION OF THE U.S. COAST GUARD

FOR NEARLY a century, the U.S. Coast Guard has been closely linked to our country's efforts to unlock the secrets of the seas around us.

The Coast Guard's interest in oceanography stems from its dual mission as an armed force and foremost U.S. agency for maritime safety. It has a history and tradition in the marine sciences dating from 1867 when the Revenue Cutter *Lincoln* was dispatched to chart the waters surrounding newly purchased Alaska.

In 1870, the Revenue Cutter *Service*, direct ancestor of the Coast Guard, initiated the Bering Sea Patrol which has made vast contributions in the exploration and charting of Alaskan waters. The Patrol is still a regular Coast Guard function.

ICE PATROL BUSY, TOO

In the eastern American Arctic, Coast Guard cutters have made oceanographic history. The cruises of the cutter *Corwin* in 1884, the *Marion* in 1931, the *Chelan* in 1937, and the *Northland* in 1938 stand as mileposts of U.S. efforts in the Arctic.

A large part of the Coast Guard's oceanographic work is done in con-



VICE ADM. DONALD McG. MORRISON became particularly interested in oceanography in 1939 when he was ordered to accompany Adm. Richard E. Byrd on his second expedition to the Antarctic. During World War II, he served in Greenland, the Marshall Islands, the Philippines, and the Mediterranean. While serving as the Coast Guard Chief of Operations, 1961-62, Admiral Morrison was a member of the Interagency Committee on Oceanography.

nection with its operation of the International Ice Patrol. It was assigned this responsibility in 1914 by the First International Conference for

the Safety of Life at Sea shortly after the sinking of the British luxury liner *Titanic*. Although the Patrol's primary mission is to keep a sharp lookout for floating ice hazards in North Atlantic shipping lanes, it is also responsible for maintaining a continuing study of ocean currents. These investigations have not only increased the efficiency of the Patrol but have also been a fruitful source of oceanographic data.

For nearly half a century, specially equipped Coast Guard cutters, such as the *Evergreen*, have conducted oceanographic surveys in the Labrador Current and the Gulf Stream off the banks of Newfoundland. Following the iceberg season, oceanographic cruises are made in the West Greenland Current, Labrador Sea, and across Baffin Bay.

At present, about 475 hydrographic stations are occupied in these regions every year. Temperature and salinity measurements are made to depths of 5,000 feet. Surface and subsurface currents are measured. After the data are processed aboard the *Ever-*

green and later at Woods Hole, Mass., a complete report is published annually.

PRAISE FROM EXPERT

The Ice Patrol's oceanographic program has served as a cornerstone for American oceanographic practices. Some of its highlights are: (1) The determination of ocean currents by dynamic topography in 1921, (2) development of the salinometer in 1926, (3) use of the geomagnetic current meter in 1948, (4) airborne radiometry in 1954, and (5) in the present season, the use of three specially designed deep sea oceanographic buoys in the Labrador Sea. In the words of the late Harold Sverdrup, world-famous oceanographer and former director of the Scripps Institution:

"The work of the Coast Guard is the outstanding example of practical application of the methods of computing ocean currents."

Much of our knowledge of the sea comes from observations provided by Coast Guard cutters on ocean station. Thirty-six major cutters are involved in the program to maintain four ocean stations in the Atlantic and two in the Pacific. With equipment such as precision depth recorders, oceanographic winches, and salinometers, these vessels are contributing significantly to oceanographic science.

Besides providing transoceanic ships and planes with search and rescue facilities, and weather information, the cutters carry out such additional duties as soundings, sea and swell observations, as well as counts of fish, birds, and other wildlife.

LIGHTSHIPS USEFUL

Some of the Coast Guard's earliest marine observations were made by its lightships. Today, these veteran sentries are being gradually replaced by offshore light structures. The new structures have been designed for measuring tides, waves, coastal current, and air-sea boundary processes. This will be in addition to their regular duties of aiding navigation. Oceanographic data gathered at these installations will be automatically recorded and stored on magnetic tape for machine processing.

At present, seven Coast Guard lightships are making bathythermographic observations, collecting water samples, and performing other services for various research organizations. Eventually, additional Coast Guardsmen will be trained in the operation and maintenance of measuring equipment and will gain basic knowledge for taking accurate measurements.

Aside from its purely scientific aspects, oceanography is today recognized as an essential element of national security. In the unhappy event of war, the oceans would undoubtedly become important battlefronts.

It is imperative, therefore, that we be more at home in that element than any potential enemy. In recognition of this grim fact, the Federal Government has launched an urgent campaign to broaden our oceanographic knowledge. The national effort is being coordinated by the Interagency Committee on Oceanography, and the Coast Guard represents the Treasury Department on that body.

COOPERATION WITH NAVY

In cooperation with the Navy, Coast Guard ships collect about 26,000 bathythermographic observations a year. As part of Navy resupply operations in the Arctic and Antarctic, the Coast Guard icebreakers, *Eastwind* and *Westwind* make many valuable contributions.

In 1961, the *Eastwind* on her return from Antarctic operation DEEP-

FREEZE, crossed the Indian Ocean and completed about 30 oceanographic stations for the Indian Ocean Expedition. During the same year, the *Northwind* conducted an oceanographic cruise of Alaskan and Siberian seas in the late fall. Her performance in occupying 105 oceanographic stations in these regions at such a late season was honored by a Navy commendation as "a feat unequaled by any icebreaker."

The Coast Guard's oceanographic program was given new impetus in February 1961 when President Kennedy signed legislation authorizing expansion and intensification of its work in the marine sciences. In signing the bill, the President said:

"Knowledge of the oceans is more than a matter of curiosity, our very survival may hinge on it. With ocean weather stations, deep sea * * * and other data collection devices, our Coast Guard can make a valuable contribution to the oceanographic program."

Obviously, the Coast Guard has its work cut out for it in the years ahead. We welcome these new opportunities to serve country and humanity.



FROM THE BRIDGE

By M. G. Nottingham, Jr.

National President, Kings Point Alumni Association

The Federal Government invested a considerable sum in the schooling of each Kings Point trained Merchant Marine Officer while individually each graduate made a substantial investment in study, time and effort. In the present period of world uncertainty it is important to the Nation and to each Alumnus that all graduates of Kings Point keep their licenses current. This is true for those that may be employed ashore and even for those no longer directly connected with the Merchant Marine. As a trained reserve of manpower the Kings Point Alumni body is important to the defense posture of the Nation and particularly to any sudden need for an expanded Merchant Fleet.

You may obtain renewal of license requirements from any office of the U.S. Coast Guard's Marine Inspection Service located in port cities throughout the country. For engineers, renewal is relatively simple. Deck officers fall into two categories: (1) Those officers who have not served under

the authority of their licenses during the three years prior to the date of application for renewal or who have not been employed in a closely related marine position ashore. These officers will be required to pass an "examination" on Rules of the Road. (2) Those officers who have sailed within the three year period. These men will take an "exercise in rules of the road." Licenses may be renewed with the minimum of difficulty within the period commencing one month prior to expiration and up to one year after expiration. Check your license expiration date now.

Your Merchant Marine license is good insurance for you and your Country.

Reprinted from THE KINGS POINTER





Photo courtesy Steuart Transportation Co.

WATER TRANSPORTATION OF DANGEROUS CARGO IN BULK

By Comdr. Eric G. Grundy, USCG
Chief, Chemical Engineering Branch, Headquarters

THE FOLLOWING ARTICLE is taken from a paper presented by Commander Grundy at the 1962 meeting of the Chemical Section of the National Safety Congress.

The expanding scientific research and development program of recent years has resulted in vast changes in technology affecting all phases of living. The increase in technical achievement shows no sign of abatement. A recent article in the Washington Post estimated that 90 percent of all scientific endeavor has taken place since the start of World War II, and that 50 percent of all the world's scientific personnel since the dawn of history are still living.

This tremendous output of research has naturally affected the chemical industry in all its facets, including transportation. The press of competition, by shortening leadtimes from laboratory to large shipments and by shortening the advantage time of a new product before a competitor produces as good or better, has built up great pressure to speed up distribution. This, coupled with the ever-increasing demands of our industry, has resulted in a shift to bulk shipments for large quantities of chemicals, many of them falling into the class of "Dangerous Commodities," and subject therefore to control by



regulatory agencies such as the Interstate Commerce Commission on land and the U.S. Coast Guard on water. Transportation of dangerous commodities in bulk shipments by water has long been a concern of the Coast Guard and it is an area which is extremely important at the present time.

The distillate products of petroleum were among the first dangerous commodities to be carried. Oil, gasoline, and most of the others caused a problem due to the flammability dangers they presented. Now the conventional petroleum products such as oil and gasoline are considered as "oldtimers" in the shipping industry, and the means of bulk transportation have been standardized.

From this point industry progressed to the shipment by water of

liquefied gases which were readily available to the petroleum and chemical companies, specifically petroleum gas and natural gas. The dangers involved indicated the need for regulating this new method of transportation.

BACKGROUND

In the beginning, liquefied petroleum and natural gases, LPG and LNG, were authorized to be carried in small containers as cargo on vessels. Later on came the transition to fixed cargo tanks. LPG was carried on these early ships in pressure vessels inside the cargo tanks, with the oil cargo occupying the free spaces between the cylinders and the hull.

In 1947 and 1948 the SS *Cape Diamond* was renamed the *Natalie O. Warren* by the Warren Petroleum Corp. and converted by Pennsylvania Shipyards, Inc., into the first ship of U.S. registry to carry LPG in bulk by sea. It had 68 vertical cylinders of various sizes which protruded through weathertight seals in the weather deck. Although these were pressure-vessel tanks, nevertheless new problems were presented. One of the major problems was that of ventilating the below-deck spaces in case any gas should escape.

This area was guarded by a combustible gas detector system which would sound an alarm when the gas-air mixture reached 40 percent of the hydrocarbon content necessary to attain the lower explosive limit. Installation of ventilation ducts which could completely change the air in all the holds in 30 minutes, and a carbon dioxide system which could completely flood the spaces instantly with inert gas was the solution. The *Natalie O. Warren* carried 34,000 barrels of cargo between U.S. gulf ports and the eastern seaboard terminals.

ORIGINAL PROBLEMS

During this period, LNG or liquid natural gas, in particular methane, came into its own. In the early 1950's the fuel demands of Chicago's Union Stockyard initiated the idea of transporting LNG up the Mississippi River from supply points on the Gulf of Mexico. The main difficulty associated with methane was that it had to be kept below minus 116° F. or it would not remain in a liquid state regardless of how high a pressure was exerted upon it. Thus, many problems arose, some of which were thermal stresses on the tanks, the ever-present danger of explosion, and the problems of handling the extremely cold material.

The Continental Oil Co. at Bayou Long in Louisiana continued to develop the original Union Stockyard operation which was based on the idea of a methane liquefaction barge and a storage barge. The storage barge had aluminum containment liners with outside balsa wood insulation. Further development of this concept led to the conversion of the *Normarti*, a C1-MAV-1-type cargo vessel, to a methane carrier re-named the *Methane Pioneer*. Her cargo tanks were made of aluminum, rectangular in shape with rounded corners and fitted with domes that protruded up through the main deck. Balsa wood sheathed with oak plywood was attached to the hull and served as insulation for the vessel's structure. The underside of the main deck was insulated by spun glass. Thermal shock was reduced during loading operations by filling through a spray head high in the tank.

The *Methane Pioneer* served as a forerunner in the development of safety standards for this method of transporting liquefied natural gas by water. After a considerable amount of study by the American Petroleum Institute Committee on Liquefied Natural Gas, the "Tentative Requirements for the Transportation of Liquefied Inflammable Gases at or near Atmospheric Pressure," were formulated. These are now used as guidelines for

industry and the Coast Guard in regulating these commodities.

Developments for liquid anhydrous ammonia moved along with those of LPG and LNG. Since the methods of transporting these two products are readily applicable to anhydrous ammonia with only minor alterations, ammonia made a smooth transition into the field of bulk water shipment. Therefore, many of the same vessels which were authorized to carry liquefied petroleum gases were also authorized to carry liquid anhydrous ammonia.

Through the years the original problems were adequately solved. Ventilation of the enclosed areas to decrease the explosion hazard was accomplished by vents and blowers of the nonexplosive type. New metal alloys and improved insulation solved the problems of thermal stress and brittle fracture. Gas-detecting devices, new and improved safety relief valves, and improved accessories have all helped to make the transportation of these products relatively safe.

NEW PROBLEMS

Today, however, there are commodities proposed for shipment that will bring with them new hazards and, consequently, new problems or new aspects of the old problems. These new problems are often complicated still further by the existence of multiple hazards in the one commodity.

Let us look first at the more familiar hazard of fire and some of the available means of control and prevention. Through the years new materials, new methods, and improvements in technique have reduced the fire hazard for standard petroleum products. However, when polar flammable or combustible liquids such as alcohols, amines, and most of the water-soluble organic liquids are carried, the standard foam firefighting system becomes greatly impaired or even useless. The broad classification as a flammable or combustible liquid on the basis of flashpoint and Reid vapor pressure will no longer suffice to provide guidance for firefighting on many of the newer materials being

shipped in bulk. The individual commodity must be evaluated if a satisfactory extinguishing agent is to be chosen. The "alcohol" type foam has proved of value for certain of these commodities. Work progressing at the present time on application of dry chemicals appears to offer promise in still other areas.

The wide disparity in other important characteristics of materials now grouped only by the consideration of ranges in flashpoints may lead to a whole spectrum of fire-extinguishing agents and methods of application. On vessels carrying several different flammable or combustible liquid chemicals, it could be necessary to provide duplicate or even multiple agents and systems. If such an arrangement were to be adopted as a solution and a vessel carried multiple fire systems on the same voyage, some quick and certain method would then be needed to determine which of these available systems should be used on a particular fire. This need for intelligent selection might require an educational program for those persons who would be doing the firefighting on board, and probably the establishment of a number code, color code, or other such means of indicating the extinguishing agents and methods to be applied to the materials involved in the fire.

While not a complete answer, the guide adopted by the NFPA in 1961 on the "Identification of the Fire Hazards of Materials" provides an approach to the problem. Basic classification criteria proposed were flammability, reactivity and stability, and health hazards, with risk severity ratings for each category being assigned on a scale of 0 to 4. Color coding and spatial arrangement within the diamond mark on the containers informs firefighting personnel of the nature of the risks involved. Addition of an extinguishing agent code (as NFPA has suggested) might provide a basis for categorizing and clarifying fire protection of chemical shipments. Changes to Coast Guard regulations are under study to provide for and require the availability of special protection for cargoes where standard equipment, materials, and methods are not satisfactory.

EXPLOSION HAZARD

Related to—but yet distinct from—the subject of fire hazard is explosion hazard. In the past, the relationship has been much clearer, with the principal concern being to avoid explosive vapor-air mixtures over petroleum and its various distillation products. In general, this is relatively easy because of the narrow range between lower explosive limit and upper ex-



Photo courtesy
Island Creek Transportation Co.

plosive limit. For example, the range for gasoline is 1.4 to 6 percent and, normally, hazardous conditions exist only during loading, unloading, and gas-freeing operations. However, with the number of liquids carried or proposed for bulk water shipment now exceeding 140 and rapidly increasing, new types of explosion hazards are arising. These result from much wider explosive ranges and the instability and reactivity of many chemicals. Air is no longer an essential ingredient of all explosions and the simple, traditional triangle of fuel, heat, and oxygen no longer describes either explosions or fires.

NEW MATERIALS

Let's consider ethylene oxide as an example of new materials which are presenting new explosion problems and as a material which can be viewed as an indication of things to come. Explosive limits for this liquid chemical are extremely wide, from 3 to 100 percent. In other words, air is not required for explosive conditions and the hazard exists in tanks at all times during normal shipment. Obviously, two types of explosion are possible for such a material—the conventional violent oxidation and an exothermic autoreaction which, in the case of ethylene oxide, can be either polymerization or decomposition. The latter type results from great chemical reactivity and this leads to another type of explosion—violent reaction with other materials which may be carried as cargo at the same time or which may be introduced unintentionally. For example, it has been proposed that anhydrous ammonia be carried in separate tanks on the same vessel with ethylene oxide or, alternatively, that the two be carried interchangeably on different trips. Because of the violent nature of vapor phase reactions between these two materials, such propositions are obviously unacceptable. However, they do illustrate modern explosion hazards which are quite different from those encountered with conventional petroleum bulk movements.

INERT GAS BLANKET

The use of inert gas blankets to reduce explosion hazards is well known in industry but, in spite of successful use for bulk shipments of petroleum distillates by at least one oil company over an extended period, the practice is a relatively new one for water transportation. The concept is straightforward for oxidation explosions where a fairly high oxygen concentration is required—typically 10-12 percent—and, from the standpoint of safety, more extensive use appears likely. However, application to some of the newer liquid chemicals

can introduce secondary hazards. For instance, for economic reasons, methane is used industrially as a diluent over liquid ethylene oxide, but the use of such a material introduces safety problems of its own. Certainly the use of a potentially explosive material to prevent explosions of another material is a change from the original concept of inerting.

PRESSURIZING

Another relatively new aspect of explosion control for bulk shipments of chemicals by water is the broadening of explosive limits by pressurizing. For example, methyl bromide is described in the literature as having an explosive range of only 1 percent (i.e., 13.5-14.5 percent) at atmospheric pressure.

However, investigations following a recent explosion at a chemical plant have revealed that, in contact with air under moderate pressure (120 p.s.i.), the range broadens to 10-23 percent. The significance is, of course, that some materials which offer little explosion hazard at atmospheric pressure may become dangerous under transportation conditions because of inadequate information on its properties.

It is evident that fire and explosion control technique must keep pace with the rapidly expanding and changing requirements of the bulk chemical cargo field. The standard answers of the past are just not adequate even for the present—let alone the future—and the Coast Guard is working hard, with the assistance of industry, to develop safe but practical regulations for each new situation.

The desire and need for transporting larger amounts of gaseous chemicals in the available container space has led to liquefied gas shipments. The quantity of these liquid materials that are gases at ordinary temperatures and pressures has increased rapidly and continues expanding under the impetus of growing demand for synthetically built-up petrochemicals whose starting points are often the lower boiling point hydrocarbons. The space age use of gaseous propellants is also adding its share to the burgeoning demand.

BOILOFF

In order to keep these low-boiling liquids from vaporizing and thus causing large losses during transfer, either pressure or reduced temperature is required. In the early years most of the shipments employed pressures high enough to insure the liquid state. More recent products, especially those in the liquid propellant field like hydrogen and oxygen, cannot be kept liquid by pressure alone at ambient temperatures. Many others, such as

liquefied petroleum gas and anhydrous ammonia, could be kept as a liquid by either pressure, reduced temperature, or a combination of both. The difficulties and expense of fabricating larger and larger pressure vessels to carry these materials led to the adoption of the reduced temperature methods. Here new problems were introduced. Ordinary mild steel used for hull construction of ships and barges became brittle and was easily fractured at the low boiling temperatures of the liquefied gas. This problem is met by using special steels, such as nickel alloys or other materials such as aluminum, for the containing tank. Either special steel or insulation employed as a secondary barrier protects the main hull and strength members from the induced cold they would otherwise encounter in the event of failure of the primary container. This secondary containment must, of course, also be constructed of material able to stand the reduced temperature without becoming brittle.

Boiloff losses and air contamination are both prevented by drawing off the cargo vapors, relieving them and returning the material to the tanks as a liquid. This method is also a refrigerating process which maintains the cargo at the liquid's boiling temperature. For partially refrigerated systems, standby refrigeration pump capacity is required to take over in the event of failure of the pumps in use. Vapor sensing systems placed in the void spaces surrounding the cargo tanks guard against buildup of dangerous amounts of vapor due to leakage.

FUTURE OUTLOOK

As new and more reactive chemicals are produced, new difficulties will be encountered; some requiring a great deal of time and man-hours to surmount. The aid and assistance rendered by other Government agencies and the industry is indispensable in their solution. Such groups as the American Petroleum Institute, the Manufacturing Chemists Association, the American Merchant Marine Institute, and many others have all contributed a great deal of time and effort. One group, the Chemical Transportation Advisory Panel to the Merchant Marine Council, is composed of members from the above groups, plus the Chlorine Institute and Compressed Gas Association. The Advisory Panel is always ready to assist the Coast Guard in matters of marine transport. With the aid and assistance of all of the above, it is anticipated that the future will continue to provide better and safer means of movement for dangerous chemicals in bulk water shipments.

PUBLIC LAW 219 OFFICERS



COAST GUARD MARINE INSPECTOR shown examining blueprints of pipe line installations of a tanker under construction.

A professional career as a commissioned officer in the U.S. Coast Guard is available to personnel of the U.S. Merchant Marine who have served at least 4 years on board vessels of the United States in the capacity of licensed officers.

Applicants who are selected for appointment will have an opportunity to continue working with the maritime industry while devoting a large portion of their time to shore duty in the field of Merchant Marine Safety.

Licensed officers of the U.S. Merchant Marine may qualify for commissions in the U.S. Coast Guard as lieutenant, junior grade, or lieutenant according to the age, license, and experience of the applicant.

LIUTENANT, JUNIOR GRADE

Applicants who are less than 32 years of age upon commissioning may qualify for original appointment as lieutenant, junior grade if they—

(1) hold one of the following licenses: Second mate (unlimited)—oceans or coastwise; first class pilot (unlimited)—Great Lakes, western rivers, or other inland waters; second assistant engineer (5,000 or more horsepower); first assistant engineer (2,000 or more horsepower); or higher.

(2) have served 4 or more years on board vessels of the United States in the capacity of licensed officers, at least 3 years of which must have been

served on board commercial merchant vessels of the United States.

LIUTENANT

Applicants who are less than 38 years of age upon commissioning may qualify for original appointment as lieutenant if they—

(1) hold one of the following licenses: Chief mate (unlimited)—oceans or coastwise; master and first class pilot (unlimited)—Great Lakes; first assistant engineer (5,000 or more horsepower); chief engineer (2,000 or more horsepower); or higher.

(2) have served 6 or more years on board vessels of the United States in the capacity of licensed officers, at least 1 year of which must have been served as chief mate or first assistant engineer. Credit may be given for service on board public vessels of the United States, for graduation from a Federal or State maritime academy or an accredited college, and for certain shore experience as assistant port captain or engineer, etc. However, such credits may not reduce the actual sea service below that specified for lieutenant, junior grade.

GENERAL SERVICE SCHOOL

Initial assignment upon appointment will be to the General Service School located at the Coast Guard Reserve Training Center, Yorktown, Va. This 4-month course provides appointees with the professional training necessary to perform the duties of commissioned officers in the U.S. Coast Guard.

SEA DUTY

Upon completion of the General Service School, officers will be assigned to duty on board major Coast



SHIP'S FIREMAN lights off a boiler for the Coast Guard inspector.

Guard cutters for approximately 1 year. This tour of sea duty provides an understanding of Coast Guard customs, organization, and operations which could not otherwise be obtained in so short a time.

MERCHANT MARINE SAFETY SCHOOL

Assignment to the 3-month Merchant Marine Safety School will follow the year of sea duty. Classroom instruction and practical instruction on board merchant vessels provide the background necessary for assignment to duty in marine inspection offices.

MARINE INSPECTION DUTY

Graduates of this school will be assigned primarily within the field of merchant marine safety with periodic assignments to other types of duty. Assignments may involve one or more of these areas: Inspection and regulation of vessels and equipment; regulation and protection of the rights of maritime personnel; supervision of safety standards; investigation of personnel and casualties; liaison with the maritime industry.

ANYBODY YOU KNOW?

CIRCUS BALANCER

Comes down hand over hand from aloft via a stay or shroud. A showoff.

PRETZEL BENDER EAGER BEAVER

Twists his back by picking up things incorrectly. Carries too many tools at one time to cut down on the number of trips. Fails to consider the other guy.

HANGNAIL ON THE THUMB OF SUCCESS SOOPER STOOPID AMATEUR ATLAS

Walks under slingloads.

HINDU NAIL WALKER RUSSIAN ROULETTE

Attempts a heavy lift without proper posture, or without help.

INGROWN HAIR ON THE CHIN OF SAFETY

Treads on projecting nails like walking on the front lawn. Fellow who gambles on worn-out personal gear such as old beat-up shoes. Favorite saying: "I'm getting off at the end of the trip, so why should I buy—"

"We don't need safety—never did. P.S. Send my mail to the Marine Hospital."



MARITIME SIDELIGHTS

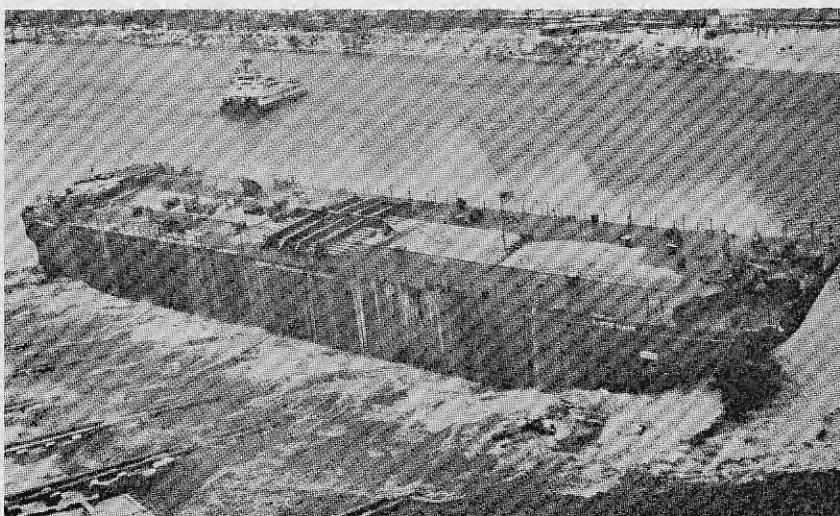
There were 904 vessels of 1,000 gross tons and over in the active oceangoing U.S. merchant fleet on February 1, 1963, 61 more than the number active on January 1, 1963, according to the Maritime Administration, U.S. Department of Commerce. There were 23 Government-owned and 881 privately owned ships 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 Company. There was an increase of 59 active vessels and a decrease of 68 inactive vessels in the privately owned fleet. A tanker, *Texaco Massachusetts*, was delivered from construction. Four freighters and two tankers were scrapped, two freighters and one tanker were transferred foreign, and one freighter was a marine casualty. This made a net decrease of 9 to a total of 976. Of the 95 privately owned inactive vessels, 3 passenger ships, 6 freighters and 1 tanker were undergoing repair or conversion. The others were laid up or temporarily idle.



"United States Coast Pilot 5, Atlantic Coast—Gulf of Mexico, Puerto Rico, and Virgin Islands" has just been published by the Coast and Geodetic Survey, U.S. Department of Commerce. This fifth edition (June 16, 1962) includes the results of thorough field inspections made in the Gulf of Mexico in 1961 and in Puerto Rico and the Virgin Islands early in 1962.

The Coast Pilot Series consists of eight nautical books—each covering a specific area—that contain information important to navigators of U.S. coastal and intracoastal waters. Each book contains a wide variety of navigational information that cannot be shown on the Coast and Geodetic Survey's nautical charts and is not readily available elsewhere.

Coast Pilot 5, consisting of 264 pages with a hard cover, is for sale only by the Coast and Geodetic Survey and its sales agencies. Price is \$2.50.



THE LARGEST BARGE ever built in the Pittsburgh area has been launched at the Neville Island, Pa., shipyards of the Dravo Corp. Built for Stewart Transportation Co., the giant vessel is designed to carry 5,400 barrels of caustic soda and 34,000 barrels of either oil or asphalt in its 9 compartments. The double-skinned tank barge, which is 270 feet long, 60 feet wide, and 25 feet deep, was christened the *Auntie Mame*.

A unique christening took place recently at the Western Gear Corp. plant in Everett, Wis., when a large amphibious vehicle, the *Barc* was turned over to the U.S. Army. Capable of transporting 60 tons of equipment from a ship at sea right to troops in the field, the "vessel" is 61 feet long; has four wheels, each 10 feet in diameter and each powered by its own 165-hp diesel engine; and has two 48-inch propellers to push it through the water.



The Maryland Port Authority announced recently that Baltimore's foreign commerce in 1962 amounted to 23.8 million tons, a gain of approximately 20 percent over 1961. Seven new steamship services were added at Baltimore during the past year.



The Maritime Association of the Port of New York reported recently that 110,786 oceangoing vessels arrived from the 11 major seaports of the United States during the calendar year 1962.

Transits through the Panama Canal are expected to increase in fiscal 1964 according to the Panama Canal Company. It is expected that some 12,044 commercial ships of 300 tons or larger will transit the canal from July 1, 1963 to June 30, 1964. This is compared with an actual 11,149 ships transited during fiscal 1962.



The Army Corps of Engineers has announced that wreckage from the tanker *Norscot* in Delaware Bay, about 3,000 feet downstream from Anchorage No. 1 off Bombay Hook Point, Del., has been removed.

NOTICE

THE ADDRESS of the Third Coast Guard District Merchant Marine Technical Branch has been changed. Inquiries and correspondence should now be addressed to: Commander, Third Coast Guard District (mmt), Room 319, 45 Broadway, New York 4, N.Y.



nautical queries

DECK

Q. When steering by Sperry gyro pilot, changes of course can be made by turning the wheel in the desired direction. One complete revolution of the wheel will alter the course _____ degree(s).

- (a) One
- (b) Two
- (c) Three
- (d) Four
- (e) Five

A. (c) Three

Q. In a sextant the angle that the two reflecting surfaces make with each other _____ the angle formed by the first and last directions of a ray of light that has undergone two reflections in the same plane.

- (a) Is equal to four times
- (b) Is equal to twice
- (c) Is equal to
- (d) Is equal to one half
- (e) Is equal to one quarter

A. (d) Is equal to one half

ENGINE

Q. Explain the operation of a hydraulic telemotor, and tell what fluid is used in the system?

A. It consists of a transmitter, which is placed in the wheelhouse, or on the bridge in some cases. There is a receiver located near the steering engine at the stern of the vessel, and there is a copper pipeline which connects the transmitter to the receiver.

The entire telemotor system is completely filled with a fluid that is used to transmit pressure from the transmitter to the receiver. Pistons and in some installations, hydraulic rams, in the cylinders of the transmitter, are moved by gears and pinions on racks, connected with the hand steering wheel. The motion of the hydraulic rams is transmitted to similar rams in the receiving part of the mechanism at the steering engine, by the pressure of the fluid in the pipes that connect the transmitter to the receiver. The motion of the rams of the receiver is transmitted through a system of gears and levers to the valve which controls the operation of the engine.

A telemotor holds about 5 gallons of fluid. The fluid is filled into the system under pressure of a hand pump for that particular purpose, or by gravity from a tank placed slightly higher than the rams in the wheelhouse and which allow any loss due to leakage at the glands to be replaced

through various types of equalizing valves and air contained in the system escapes through a pet cock which is located at the highest point in the system.

Some vessels use a mixture of glycerine and water for the telemotor system. It is not too slow in moving and will not freeze in the pipes. Others use a mineral oil which is light in body and quick in action.

Q. When making a routine inspection of the electro-hydraulic steering gear and the hydraulic telemotor system, what main points should be observed?

A. When making a routine inspection of the hydraulic steering gear, the following main points should be observed:

(1) Check the rams of the steering engine and the plungers of the telemotors for leakage.

(2) Check the replenishing tanks to the forward telemotor and the pumping units of the steering engine for sufficient make-up oil.

(3) Insure that there are no loose objects in the vicinity of the steering engine which may interfere with the rams or plungers.

(4) Feel the motors for excessive heat and see to their proper ventilation.

(5) Check the control system, rams and rudder for corresponding alignment during operation.

(6) Listen for any unusual noises during the operation of the pumps and rams.

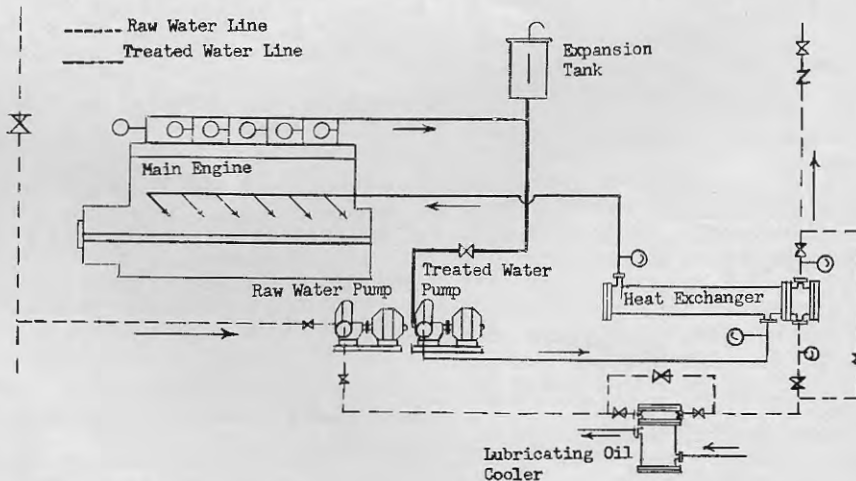
Q. Describe the motion of each of the following parts of the variable-stroke, radial-piston pump used in the electro-hydraulic steering gear. State whether each rotates; reciprocates; rotates and reciprocates; or is stationary when the pump is operating on a set stroke.

- (a) cylinder body
- (b) floating ring
- (c) spindle
- (d) central cylindrical valve
- (e) slippers
- (f) plungers
- (g) crosshead

A. When the pump is operating on a set stroke, the

- (a) Cylinder body rotates.
- (b) Floating ring rotates.
- (c) Spindle rotates.
- (d) Central cylindrical valve is stationary.
- (e) Slipper rotates.
- (f) Plungers rotate only but there is a relative radial movement between the plungers and their cylinders.
- (g) Crosshead is stationary.

Q. Sketch a typical treated fresh-water cooling system for a main diesel engine.



A. A typical system is reproduced above.

RESCUER COMMENDED



CAPTAIN STYLIANOS COUTSODONTIS, master of the SS *Captain Theo*, shown receiving a letter of appreciation from the Commandant of the Coast Guard for his part in the rescue of an 11-year-old child survivor of the ill-fated yacht *Bluebelle*. The award was presented by Rear Adm. R. M. Ross, Commander of the Third Coast Guard District.

4 DECEMBER 1962.

DEAR CAPTAIN COUTSODONTIS:

It has come to my attention that you, your officers and crew on 16 November 1961, effected the successful rescue of a survivor, Terry Jo Duperrault, of the ketch *Bluebelle* which had sunk in Northwest Providence Channel, Bahamas Islands, on the night of 12 November 1961. As Commandant of the Coast Guard, the principal agency of the United States entrusted with safety of life and property at sea, I am pleased to commend the personnel of the SS *Captain Theo* for their outstanding vigilance and performance in effecting this rescue.

The report of the Coast Guard's investigation into the circumstances of the casualty disclosed that the *Bluebelle* sank approximately halfway between Sandy Point, Babco and Great Stirrup Cay, Bahamas Islands, at about midnight on 12 November 1961, and that two persons survived.

At about 9:45 a.m., on 16 November 1961, Nicholas Spachidakis, your second officer, spotted a small object amidst numerous whitecaps, which on closer approach turned out to be a young girl on a small life float. The *Captain Theo* was skillfully maneuvered into a position for rescue and all hands assisted in transferring the survivor to safety. The extremely sunburned and exhausted girl was cared for and was finally able to tell her name and nationality. The Coast Guard was notified and medication administered as prescribed by the U.S. Public Health Service until her removal by a helicopter a short while later. But for the timely rescue of this survivor by the *Captain Theo*, she would undoubtedly have soon perished.

Your unselfish efforts and performance of duty in this case should afford you all a large measure of personal satisfaction and is deserving of the highest praise.

I take this opportunity to express to you my most sincere appreciation for the fine humanitarian service you rendered on this occasion.

Sincerely yours,

E. J. ROLAND,
Admiral, U.S. Coast Guard,
Commandant.

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

SUBCHAPTER E—LOAD LINES

[CGFR 63-2]

PART 45 — MERCHANT VESSELS WHEN ENGAGED IN A VOYAGE ON THE GREAT LAKES

Seasonal Load Lines

The Coastwise Load Line Act, 1935, as amended, in section 2 (46 U.S.C. 88a) provides for establishing by regulations " * * * the load water lines and marks thereof indicating the maximum depth to which * * * vessels may safely be loaded. * * * " The text of a regulation designated 46 CFR 45.01-75 provides for winter, intermediate and summer seasonal load lines for vessels operating on the Great Lakes.

The purpose of the amendment to 46 CFR 45.01-75 (c) and (d) is to allow a variation in the seasonal load lines for certain vessels operating between the Toledo Harbor, Ohio, and Port Huron, Michigan, where the seasonal load lines permitted will not be above the actual line of safety for such vessels. It is hereby found that compliance with the Administrative Procedure Act (respecting notice of proposed rule making, rule-making procedures thereon and effective date requirements) is impracticable and unnecessary for reasons set forth above and therefore exempted by specific provision in section 4 of the Administrative Procedure Act (5 U.S.C. 1003).

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), and 167-48 dated October 19, 1962 (27 F.R. 10504), and pursuant to section 88a of Title 46, U.S. Code, § 45.01-75 is amended by revising paragraph (c), and redesignating it as paragraph (d), and by inserting a

new paragraph (c) so that these paragraphs read as follows:

§ 45.01-75 Seasonal load lines.

* * * * *

(c) When engaged on voyages between the limits of Toledo Harbor and Port Huron, Michigan, cargo and tank vessels above 300 feet in length may load to their intermediate marks between September 16 and May 15, inclusive. Such vessels above 400 feet in length may load to their summer marks during this period.

(d) Except as provided in paragraph (c) of this section, no vessel shall be loaded so as to submerge at any time the load line applicable to the season.

Federal Register of February 2, 1963

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER A—GENERAL

[CGFR 63-6]

PART 2—GENERAL DUTIES AND JURISDICTION

Navigable Waters of the United States in 11 States

The purpose for this document is to publish the determinations made by the Commandant, United States Coast Guard, with respect to certain navigable waters of the United States in Florida, Hawaii, Louisiana, Michigan, North Carolina, South Carolina, and Texas; as well as determinations that certain waters are considered to be nonnavigable waters of the United States which are in Georgia, New York, Oklahoma, and Oregon. In the administration and enforcement of various navigation and vessel inspection laws, rules and regulations, it was necessary to determine whether or not certain bodies of waters are in fact navigable waters of the United States and subject to laws administered by the Coast Guard. The information in this document is intended also to further the development, use and enjoyment of all the navigable waters within the United States, and to clarify responsibility with respect to laws, rules and regulations intended to promote safety of life and property on these waters as further described in 33 CFR 2.10-5 and 2.15-1.

Because the rules in this document are interpretations, it is hereby found that the Coast Guard is exempt from compliance with the Administrative Procedure Act (respecting notice of

proposed rule making, public rule-making procedures thereon and effective date requirements).

Federal Register of February 19, 1963.

TITLE 46—SHIPPING

CHAPTER I—Coast Guard, Department of the Treasury

[CGFR 63-4]

OPEN HOPPER TYPE BARGES

Operation While Carrying Dangerous, Inflammable or Combustible Cargoes in Bulk

During recent months the Coast Guard has studied a number of marine casualties involving open hopper type barges. These casualties resulted in such barges sinking because of swamping or diving. These barges were transporting certain dangerous, inflammable or combustible cargoes in bulk at the time the casualties occurred.

The commodities considered as dangerous or hazardous are liquefied inflammable gases, inflammable or combustible liquids having lethal characteristics (Class B or C poisons), inflammable liquids having a Reid vapor pressure in excess of 25 pounds per square inch absolute, elemental phosphorous in water, sulfuric acid, hydrochloric acid, anhydrous ammonia, chlorine and radioactive materials.

The Coast Guard's review of these marine casualties has disclosed an urgent and immediate need for positive action in the public interest to prevent similar future barge sinkings. If a large quantity, such as normally transported in an open hopper type barge, of such dangerous materials were to be released accidentally a serious public menace would occur. Corrective action is necessary in order to minimize or prevent serious hazards, including the possible contamination of the inland waterways and/or the atmosphere by the accidental release of large quantities of hazardous or poisonous materials. It is therefore essential to establish these emergency safeguards to govern the operation and navigation of open hopper type barges when transporting certain dangerous, inflammable or combustible cargoes in bulk.

The purpose of the regulations in this document is to establish minimum emergency requirements to govern the transportation of specific cargoes in open hopper type barges by appropriate amendments, which are designated as 46 CFR 35.01-45 (Tank Vessels) and 98.03-1 to 98.03-

10 (Cargo and Miscellaneous Vessels). These special operating requirements shall apply to all open hopper type barges when carrying in bulk liquefied inflammable gases (46 CFR Part 38); or inflammable or combustible liquids having lethal characteristics (Class B or C poisons) (46 CFR Part 39); or inflammable liquids having a Reid vapor pressure in excess of 25 pounds per square inch absolute (46 CFR Part 32) (independent tanks); or elemental phosphorous in water, sulfuric acid, hydrochloric acid, anhydrous ammonia, chlorine, or radioactive materials (46 CFR Part 98). These special operating requirements shall be in effect on and after March 1, 1963. These special operating requirements are emergency safety provisions which will remain in effect until such time as the existing open hopper type barges are reviewed and considered acceptable without modification or such barges are modified to the satisfaction of the Commandant. A study of existing open hopper type barges carrying dangerous, inflammable or combustible cargoes is currently being conducted to determine to what extent structural modifications are necessary to provide the desired degree of safety. These emergency operating requirements will not be applicable to such open hopper type barges when empty (not necessarily cleaned or gas-freed).

These emergency operating regulations require that open hopper type barges when transporting certain dangerous, inflammable or combustible cargoes shall be readily identified by use of placards or signs as prescribed in these regulations. It will be incumbent upon the owner and/or shipper to have these additional placards or signs placed on such barges. This responsibility includes their maintenance while such barges are in temporary storage with cargo aboard. The person in charge of the towing vessel shall be responsible for the continued maintenance of these placards or signs on such barges when they are in transit.

Furthermore, the person in charge of towing vessel handling or moving open hopper type barges containing these dangerous, inflammable or combustible cargoes in bulk is responsible to see that such barges when displaying the required placards or signs are operated in accordance with the special operating provisions in these regulations. These requirements prohibit the movement of these marked barges in tows unless the specific provisions in the regulations are or have been met.

Because of the emergency described generally above, it is hereby found necessary to invoke the special provi-

sions concerning rule making in sections 170 and 391a, Title 46, U.S. Code, and section 1003, Title 5, U.S. Code, and declare that compliance (with those provisions respecting notice of proposed rule making, public hearings, public rule-making procedures thereon, and effective date requirements) is impracticable and contrary to the public interest.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Order 120, dated July 31, 1950 (15 F.R. 6521), to promulgate regulations to implement sections 170 and 391a, Title 46, U.S. Code, the following regulations are prescribed and shall become effective on and after March 1, 1963:

Federal Register of February 6, 1963.

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER I—CARGO AND MISCELLANEOUS VESSELS

[CGFR 62-46]

PART 98—SPECIAL CONSTRUCTION, ARRANGEMENT, AND PROVISIONS FOR CERTAIN DANGEROUS CARGOES IN BULK

Subpart 98.01—Application

Subpart 98.35—Portable Tanks for Combustible Liquids

MISCELLANEOUS AMENDMENTS

The Merchant Marine Council held a Public Hearing on March 12, 1962, for the purpose of receiving comments, views and data with respect to miscellaneous vessel inspection proposals. The notice of proposed rule making was published in the *FEDERAL REGISTER* on January 23, 1962 (27 F.R. 657-665). The Merchant Marine Council Public Hearing Agenda (CG-249), dated March 12, 1962, sets forth the proposed regulations in detail and copies thereof were furnished to all who had indicated an interest in the subjects set forth therein.

This document is the seventh of a series regarding the regulations and acts considered at the March 12, 1962, Public Hearing and Annual Session of the Merchant Marine Council. This document contains the final actions taken with respect to the proposals regarding "portable containers for combustible liquid cargoes" in "Item III—Vessel Operations and Inspections" (pages 120-125, CG-249). Because Subpart 98.30 is now used

for other published regulations, these requirements regarding portable tanks are now designated as 46 CFR Subpart 98.35 and the text as §§ 98.35-1 to 98.35-50. These proposals, as revised and set forth in this document, are approved.

More than 70 written comments were submitted concerning the proposals governing the transportation of combustible liquids in portable containers. As a result, a number of problems and questions were referred to the Portable Cargo Tank Committee of the American Merchant Marine Institute, Inc., and informal discussions were held with others who had indicated serious concern regarding various portions of the proposals. The Coast Guard appreciates very much the assistance received from those who submitted comments and discussed the problems involved. In general, the changes made in the proposals may be described as follows:

a. Throughout the subpart the phrase "portable containers" was changed to "portable tanks" in order to be more descriptive and to use terminology normally used to describe these cargo tanks.

b. This subpart applies to all portable tanks used to carry combustible commodities aboard vessels. In order to provide an effective control over the transportation of commodities, other than those which are paraffinic hydrocarbons, it will be necessary to obtain from the Commandant, United States Coast Guard, authorization for each separate commodity prior to its transportation in portable tanks.

c. In response to a number of comments, changes were made in the regulations to show which requirements apply specifically to the loaded portable tanks which are lifted on or off a vessel and those which apply specifically when a portable tank is placed on a vessel and then filled or discharged on board through the use of cargo hose from shoreside connections.

d. A number of comments objected to certain portions of the construction requirements being limited in effect to one type of tank. The requirements are revised to provide standards for portable tanks having internal pressures up to 10 pounds per square inch, and to provide that tanks in excess of this pressure shall be considered as unfired pressure vessels and subject to the applicable requirements therefor which are in the Marine Engineering Regulations.

e. With respect to existing portable tanks which have been authorized for use by the Coast Guard, special consideration will be given to their approval. The principal difficulties anticipated with such tanks is in con-

nection with access openings and markings. Those tanks which meet ICC specifications will be accepted under the provisions of these regulations without further changes. Those portable tanks presently authorized by the Coast Guard will be only required to comply with the provisions for testing, inspection, and marking as set forth in these regulations. To provide an orderly transition the Officer in Charge, Marine Inspection, is authorized to exercise reasonable discretion in obtaining compliance.

f. Comments were made concerning the limitations on stowage of portable tanks to the open weather deck, and information submitted concerning practices followed in carrying such tanks below deck was very helpful. Changes are incorporated into the proposals so that under specified safety conditions portable tanks may be stowed below the weather deck. In addition the requirements are clarified concerning application of requirements under the tank vessel regulations to portable tanks carried on passenger vessels and cargo vessels.

g. A number of comments indicated that the proposals, when considered as a whole, limited the materials used in construction to some type of metal. This was not intended and therefore changes are made to permit greater latitude in construction materials so long as the essential construction design requirements are met.

h. The proposals concerning fire-fighting equipment and fire precautions were revised in order to permit greater latitude in the selection of the type of semiportable fire extinguishing system carried on board the vessel, and yet to provide extinguishing mediums effective against the actual combustible liquids carried in these portable tanks.

i. In order to recognize and place responsibility for needed safety practices to be followed, the provisions concerning "special operating conditions" were revised. In particular, the responsibility for having certain actions taken prior to, during, and after the loading or discharging of portable tanks on board vessels, or during the time loaded portable tanks are being transferred on or off the vessel, have been assigned to the senior deck officer of the vessel when required to be aboard, and if not, then to the person actually in charge of the transfer operations. Another important responsibility is assigned to the vessel's crew, namely, the maintenance in good condition of the cargo hose used in loading or unloading portable cargo tanks while still aboard the vessel.

j. The testing and inspection provisions have been revised to have the

plan approvals, initial tests and procedures consistent with other testing practices and procedures followed in merchant marine safety activities. These portable tanks will be subjected to initial tests, including a demonstration of a prototype tank in order to assure that such a tank when loaded will have a satisfactory behavior when lifted which is stable and controllable. These portable tanks will be subjected to tests and inspection by Coast Guard marine inspectors every four years. However, if such portable tank is damaged during the four-year period, then such tank shall be tested and examined during and at the completion of the repairs and prior to the portable tank being placed again in use.

k. Combustible liquids in Interstate Commerce Commission's approved tank cars and tank trucks (for inflammable liquids) and specification ICC-51 portable tanks (complying with ICC requirements) are considered acceptable for stowage on the open weather deck; however, such containers may be stowed below the weather deck only if the Commandant is satisfied that the minimum requirements in these regulations are met and such containers have required venting and outage.

Federal Register of February 1, 1963.

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 February 7, 1963 (CGFR 63-3) and Federal Register dated February 27, 1963 (CGFR 63-5). Copies of these documents may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.]

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of ships' stores and supplies certificated from 1 February to 28 February 1963, inclusive, for use on board vessels in accordance with the provisions of part 147 of the regulations governing "Explosives or Other Dangerous Articles on Board Vessels" are as follows:

CERTIFIED

Knox Chemical Co., 18 East Kinzie Street, Chicago 11, Ill., Certificate No. 174 dated 4 February 1963,

KNOX PYRENONE B INDUSTRIAL AND MILL SPRAY CONCENTRATE.

Sea-Air Chemical Corp., 32-00 Borden Avenue, Long Island City 1, N.Y.:

Certificate No. 203, dated 8 February 1963, BOSUN'S MATE.

Certificate No. 214, dated 8 February 1963, SYN-CLEANER.

Certificate No. 298, dated 8 February 1963, STEAM-CLEAN-#405.

Certificate No. 332, dated 8 February 1963, STEAM-CLEAN-404.

Certificate No. 335, dated 8 February 1963, ELECTRO-CLEAN.

Certificate No. 344, dated 18 February 1963, DISOLVOL.

Certificate No. 380, dated 18 February 1963, FOILZOIL.

The Penetone Co., Tenafly, N.J.:

Certificate No. 554, dated 19 February 1963, NAVITONE.

Certificate No. 555, dated 19 February 1963, SOLUTE.

CANCELED

(Failed to renew in accordance with 46 CFR 147.03-9)

West Chemical Products, Inc., 42-16 West Street, Long Island City 1, N.Y., Certificate No. 147, dated 1 February 1963, WESTOFUME.

The Clarkson Laboratories, Inc., 1450 Ferry Avenue, Camden 4, N.J., Certificate No. 160, dated 1 February 1963, Mulsifor.

Nocon Products Corp., 62 William Street, New York 5, N.Y., Certificate No. 176, dated 1 February 1963, NOCO-MET.

Malter Supply Co., Inc., 545 Magazine Street, New Orleans 12, La.:

Certificate No. 232, dated 1 February 1963, MALCO MS-1025 SOLV.

Certificate No. 237, dated 1 February 1963, MALCO XL CARBURETOR CLEANER.

Magnus Chemical Co., Inc., Garwood, N.J.:

Certificate No. 324, dated 1 February 1963, MAGNUS AUTOMATIC TANK WASH.

Certificate No. 326, dated 1 February 1963, MAGKLEEN #1.

Certificate No. 329, dated 1 February 1963, MAGNUS DEGREASER 7-11.

Certificate No. 330, dated 1 February 1963, MAGNUS FUEL OIL TREATMENT.

Certificate No. 331, dated 1 February 1963, MAGNUS LUBRIFIN.

Certificate No. 333, dated 1 February 1963, MAGNUS SUPER SCALE SOLVE.

Certificate No. 352, dated 1 February 1963, MAGNUS FUEL OIL TREATMENT SPECIAL.

American Lubricants Co., 1227 Deeds Avenue, Dayton 1, Ohio, Certificate No. 349, dated 1 February 1963, BIXON #1800.

The Tiffany Co., 1227 Deeds Avenue, Dayton 1, Ohio, Certificate No. 371, dated 1 February 1963, T-A-P.

Plunkett Chemical Co., 3500 South Morgan Street, Chicago 9, Ill., Certificate No. 381, dated 1 February 1963, PC-400 LIQUID BOWL CLEANER.

United Chemetrics, 600 South Fourth Street, Richmond, Calif.:

Certificate No. 455, dated 1 February 1963, UNITED DUAL PURPOSE OIL ADDITIVE.

Certificate No. 456, dated 1 February 1963, DESCALER.

Certificate No. 457, dated 1 February 1963, 'UNDERWAY' TANK CLEANER.

Certificate No. 458, dated 1 February 1963, OIL SPILL EMULSIFIER.

Certificate No. 459, dated 1 February 1963, 'OILSIDE' CLEANER.

Certificate No. 460, dated 1 February 1963, BURNER TIP CLEANER.

Dunham Chemical Co., 840 North Michigan Avenue, Chicago 11, Ill., Certificate No. 478, dated 1 February 1963, DUNHAM C-289.

DuBois Chemicals, Inc., Broadway at Seventh, Cincinnati 2, Ohio: Certificate No. 511, dated 1 February 1963, M-302 OIL EMULSIFIER.

Certificate No. 513, dated 1 February 1963, M-300 DEGREASER.

Certificate No. 514, dated 1 February 1963, M-900 EMULSION BREAKER.

Certificate No. 517, dated 1 February 1963, M-301 DEGREASER.

AFFIDAVIT

The following affidavit was accepted during the period from 14 January 1963 to 15 February 1963:

The Lunkenheimer Co., Box 360, Annex Station, Cincinnati 14, Ohio, Heats No. 665, 666, 667 & 668.

NOTE: Hoke Incorporated, One Tenakill Park, Cresskill, N.J., will be deleted in the Formerly Approved Affidavit Section and will be added to the Currently Acceptable Affidavit Section in the revised edition of CG-190 for the following item—VALVES.

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, 2-6-63.
129	Proceedings of the Merchant Marine Council (Monthly).
169	Rules of the Road—International—Inland (6-1-62), 1-18-63.
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 Lifeboatmen, 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, 2-2-63.
182	Specimen Examinations for Merchant Marine Engineer Licenses (12-1-59).
184	Rules of the Road—Western Rivers (6-1-62).
190	Equipment Lists (4-2-62). F.R. 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, 1-4-63, 1-8-63, 2-7-63, 2-27-63.
191	Rules and Regulations for Licensing and Certificating of Merchant Marine Personnel (6-1-62). F.R. 10-4-62, 12-28-62, 1-22-63.
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, 1-30-1963.
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, 2-1-63, 2-6-63.
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, 10-5-62, 12-28-62, 1-22-63.
329	Fire Fighting Manual for Tank Vessels (4-1-58).

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CHANGES PUBLISHED DURING FEBRUARY 1963

The following have been modified by Federal Registers:
 CG-257, Federal Register, February 1, 1963.
 CG-176, Federal Register, February 2, 1963.
 CG-123 and CG-257, Federal Register, February 6, 1963.
 CG-190, Federal Register, February 7, and February 27, 1963.

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