

# PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL



UNITED STATES COAST GUARD

Vol. 17, No. 3 • March 1960

CG-129



## Features

THEY MADE TRUCKS SEAWORTHY  
INTERNATIONAL ICE PATROL AND  
ICE CONSERVATION SERVICES, 1960

# PROCEEDINGS

OF THE

## MERCHANT MARINE COUNCIL

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

The Merchant Marine Council of the United States Coast Guard

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### FRONT COVER

The SS *Santa Eliana*, first all container ship in U.S. overseas trade, is shown arriving in New York in January 1960 for the traditional greeting by the port. She is now operating in the New Grace Line—*Seatrainer* Service between New York and ports in Venezuela. Photo courtesy Grace Lines.

### BACK COVER

One of a series of cartoons specially drawn for the PROCEEDINGS by Grandon S. Seal.

### DIST. (SDI NO. 70)

A: a a b c d (2); remainder (1)  
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## TURN SIGNALS INSTALLED ON MSTs CARGO SHIP



"Turn Signal" lights, an invention of Captain A. Vreugdenhil of Holland, were installed aboard the Dutch cross-channel ship *Batavier V* approximately two years ago. A similar installation has now been made by the Military Sea Transportation Service aboard the USNS *Golden Eagle*, as shown in the photograph above.

This visual signalling device will be used at the discretion of the Master, simultaneously and in consonance with the ship's whistle, to indicate a turning maneuver. MSTs has enlisted the help of the shipping industry in evaluating the arrows by asking for reactions from ships which

(Continued on page 46)

## RESCUE AT SEA



JERUSALEM crew member drops a fender in place as motor lifeboat with injured men comes alongside the cruise liner.

(Pictures by ship's photographer, SS Jerusalem, courtesy ZIM Lines)

THE ATLANTIC Merchant Vessel Report System (AMVER) and the SS *Jerusalem* teamed up on January 7, 1960, to assist the SS *Chryssi*, a Panamanian tanker, when an explosion seriously injured two crew members.

The *Chryssi* was steaming approximately 365 miles northwest of San Juan, P.R., when an explosion and flames ripped through the tanker's port generator room. Two men, the second engineer and an apprentice, were badly injured and bleeding internally. The only hope was for medical assistance from a vessel if one were close enough to reach the tanker in time.

A "medico," which was picked up by the Coast Guard and relayed to the Eastern Area Command, was sent by the *Chryssi*. Within minutes, the AMVER System located the SS *Jerusalem* and the SS *Mauretania*. This was accomplished by a computing machine which automatically computes the dead reckoning positions of all ships participating in the system while they are at sea.

The calculations of this robot brain are based on periodic AMVER messages giving sufficient information for

a dead-reckoning plot. The navigation problem is solved by the machine



ONE of the injured men being lowered over the side of the tanker *Chryssi* into the *Jerusalem's* lifeboat.

based on these messages. Data on each ship, such as whether it normally carries a doctor, has radar, has voice communications, etc., is filed in a magnetic memory that is part of the machine. This data is instantly available along with the position information. When a distress call is received, the machine speedily sorts out and gives the names and positions of the nearest ships and the pertinent information on each.

The Master of the *Chryssi* asked the *Jerusalem* to assist and the *Mauretania* proceeded on her way. The Master of the Israeli ship altered course to rendezvous with the tanker. A lifeboat from the *Jerusalem* was lowered and the injured men taken aboard, one strapped to a chair, the other on a stretcher. The *Jerusalem's* fully equipped hospital was ready to receive them.

Both men were saved. They were landed the next day at San Juan, the *Jerusalem's* first cruise port of call. Thanks to the fine seamanship of the officers and crew of the *Jerusalem* and the efficiency of the AMVER System, another rescue at sea had been accomplished.



A CARGO OF CANNED FOOD ON AN  
ORE FREIGHTER?—IT HAPPENED WHEN . . .

## THEY MADE TRUCKS SEAWORTHY

By John T. McDermott



GANTRY CRANES lifting containers aboard the *Santa Eliana*—first all-container ship in U.S. overseas trade and scheduled to operate in the new Grace Line—Seatrainer Service between New York and Venezuela. (Photo courtesy Grace Lines.)

LATE IN 1956 the Matson Navigation Company began preliminary research on a vastly new and different way of handling and stowing cargo aboard ships. What they wanted to develop was a way to transport a truckload of cargo from, let's say, Los Angeles to Hawaii—without ever taking the cargo out of the truck. Two years later they had their answer, and the concept of marine containerization was born. Metal containers, designed to conform in size with over-the-road truck vans were put into service.

These vans, containing 40,000 lbs., could be lifted off the truck chassis by crane, deposited topside on a ship, and lifted off at destination. The system as it was developed practically provided a door-to-door service from shipper to consignee.

By now containerization had attracted other companies, sparking a revolution in marine transportation. Here's what happened: Van manufacturers were asked to build special lift-on-off containers: ship conversions to conform to the new concept

were started; the first defined linkage among three major forms of transportation, rail, truck and ship, had taken place. And, on the Great Lakes, containerization helped bring back the once flourishing activity that fell casualty to the defense demands of World War II—the packaged freight trade.

Pan-Atlantic Steamship Corp. pioneered in the use of metal cargo containers. By early summer of 1959, two overseas companies completed plans for entering the containership business. Containerships, Inc., sub-

subsidiary of Erie & St. Lawrence Corp., gave Maryland Shipbuilding and Drydock Company a \$7 million contract for construction of two roll-on, roll-off ships for Lakes, Gulf and Atlantic coast service. Already, Grace Line had sent two C-2 freighters, the SS *Santa Eliana* and the SS *Santa Leonor*, to Maryland Shipbuilding for container ship conversion. United Cargo Corp., meanwhile had been sending container cargo laden ships to Europe.

On the Great Lakes, the Detroit Atlantic Navigation Corp., a subsidiary of Browning Lines, Inc., brought back the package freight trade with their "fishy-back" service. Two 532-ft. ore carriers, the SS *Norman W. Foy* and the SS *W. Wayne Hancock*, were pressed into service, each to carry 60—33' x 9' x 8' demountable trailer truck bodies. Sailings were scheduled every four days from Duluth to Detroit and Cleveland until winter shutdown. When the *Foy* started from Duluth's Arthur M. Clure Public Marine Terminal in September, on her maiden voyage as a container ship, her vans contained bagged flour, lumber products, and 160,000 pounds of Chun King canned food, the latter certainly an uncommon cargo for an ore carrier.

#### WHY CONTAINERIZATION?

Lower cargo handling costs and quicker turnaround time are the ultimate advantages of containerization. George G. Sharp, Inc., naval architectural firm, which worked closely with the concept, presented a report to the New York Section, SNAME last spring. The report pointed out the increasing cost of transportation and how it has become a serious factor in the national economy. It proposed more extensive use of utilized loads to materially reduce shipping expenses and time, suggesting an integrated system that provides for interchange

permit greater utilization of equipment between various types of carriers to permit for quicker deliveries and reduced costs.

One high shipping cost that will be pared down by containerization is stevedoring labor. Handling loose cargo takes more time and manpower than handling of containers. However, experts say a shift from loose cargo to container transportation will have to be worked out carefully. Since containerization utilizes a high

A dramatic new aspect of ocean transportation took place this January with the sailing of Grace Line's, *Santa Eliana*, which inaugurated the first all-container service in the overseas foreign trade of the United States.

Previewing the future with its ultimate hope of door-to-door delivery to many of the markets of the world, the containership, brings to ocean transportation a major innovation in cargo handling. To shippers it offers the greatest possible security for shipments and the highest degree of customer satisfaction. It also offers opportunities for the elimination of many packing costs and the reduction of domestic handling and transportation charges.

Mr. John T. McDermott reviewed the development of the containership in a recent article in the *Great Lakes and Inland Waterways* from which this article has been developed.

degree of automation, the changeover, if completed too quickly, can result in labor displacement problems.

Other plus factors of containerization, which are catching the eye of the fleet operator, are protection of cargo against pilferage and damage, elimination of export packing and crating charges, simplified bill of lading and flexibility in or interchange.

Coastwise, there's not much difference between container and conventional ship construction when both are equal in size. The conventional ship may have a slight price advantage because the containership, particularly the cell type requires more steel and finer shipbuilding techniques for container-holding structures. Since the containership does not have the capacity of its conventional counterpart, it must depend on quick turnaround and other containerization advantages to make its profit. For example a Pan Atlantic container ship takes only 13 hours for loading and unloading. The average conventional ships usually require anywhere from 36 to 84.

#### CONTAINERS, HOW BIG?

Maritime committees right now are working on container size standardization. To date they have proposed a van eight feet high, eight feet wide and ranging from 17 to 35 feet in length. Some states do not approve of over-the-road vans longer than 35 feet. The 17-ft. van was recommended because of ease of handling, moving and storing. Vans are built of aluminum, steel or combination of both. They are equipped for lifting by overhead crane, and built for easy lifting on and off truck chassis and railway flat cars. Since shipboard arrangement usually calls for stacking the container five to six high in the hold, only a sturdily built box can take the rigors of life afloat.

There are several ways containers can be carried aboard ships. One method, recommended by naval architects, is called the cell type, in which cargo is stowed vertically under the hatches. Each container is located in its divided area and concentrated loads are on the inner bottom. Another way of handling the boxes is the roll-on type of arrangement in which cargo is brought aboard through side ports by fork lift truck and stored between decks. Some ships combine loads, carrying loose cargo in the holds and containers topside.

Just how is a ship converted for containerization? Here's what Maryland Shipbuilding and Drydock Company did with the *Santa Eliana* and *Santa Leonor*, where 17-ft. long containers will be used.

First, vessel lengths were increased by 45 feet at the vicinity of No. 3 hold. Beam was enlarged by 11 feet. Midship house was shortened from 85 to 67½ feet, while the mast house was eliminated and all masts replaced. In the hold, four transverse bulkheads were inserted, 11 new cross tie web frames and 21 new web frames were installed. Then a system of cell guides was constructed, dividing the cargo holds into 84 cells with strengthening structural supports. Finally, hatch coamings and covers were renewed. Other changes then were made to conform with the vessel's new shape and dimensions.

#### WEST COAST DEVELOPMENTS

The first full containership will soon enter the Pacific trade when the *Hawaiian Citizen*, a C-3 of the Matson Navigation Co. fleet, completes her conversion job. The converted *Citizen* will resemble an ore ship, without masts, king posts or booms. There will be more than 9,000 measurement tons of container cargo

#### ABOUT THE AUTHOR

JOHN T. McDERMOTT is associate editor of *Great Lakes and Inland Waterways Magazine*, having joined the publication about a year ago. He was formerly a member of the editorial staff of a national office management magazine and has been engaged in advertising and newspaper work. His interest in marine activities stems from his Navy days. He has contributed articles to magazines directed to the pleasure boating field.





THIRTY-THREE-FOOT vans are shown being loaded aboard the Great Lakes freighter Foy.

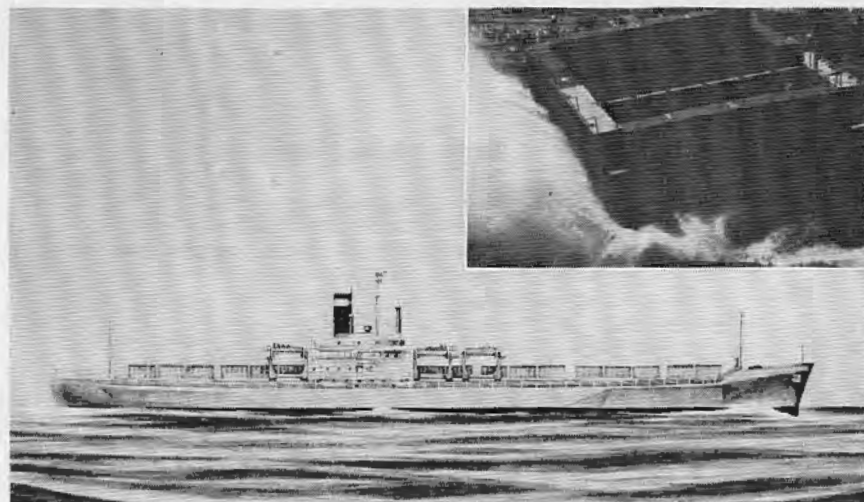
space, including room for about 40 containers on her weather deck. In each hold except number one, containers will be stacked in "cells" six high and six abreast. The containers will rest one on top of the other in the hull held only by tightly fitting vertical "angle guides." Matson's 25-ton capacity automatically controlled shoreside gantry cranes will be able to discharge and load containers simultaneously.

The hatches will be widened from the present 24 feet to 54 feet while all 'tween decks will be removed. Wing tanks will be installed to provide liquid-carrying capacity and a complete new deck will be added to

increase the ship's depth from 42½ to 52 feet.

The addition of the deck will raise the midship "house." This will be done, incidentally, by cutting the house off at the weather deck and lifting it off the ship. After the new deck is installed and welded to the hull, the old house will be sealed on top of it and welded into place.

President Randolph Sevier described the ship conversion project as "the second step in a planned transition to full container service between California and Pacific Northwest ports and Hawaii." Later stages call for converting additional C-3's or C-4 freighters.



ARTIST'S CONCEPTION of one of Grace Line's C-2 cargo ships after conversion to container-ship. Double midship section (inset) one half of which was used for lengthening of each of two C-2 ships is shown being launched at Maryland Shipbuilding and Drydock Co. yards.

## TURN SIGNALS

(Continued from page 42)

encounter the *Golden Eagle* in the Atlantic Area.

These visual signals are supplementary to the use of the ship's whistle in connection with turning the ship and in no way replace or eliminate the use of either the whistle or existing lights required by International or U.S. Inland Rules of the Road.

At the present time, the *Golden Eagle* will use this signal only in waters where International Rules of the Road govern. It will be used to indicate a turn to starboard or to port as signalled by the appropriate one or two blasts under the International Rules of the Road.

The *Golden Eagle* arrows are attached horizontally across the railing on the forward side of the flying bridge, where they are visible to ships forward of the *Eagle*, in a 120-degree arc. The arrows are pointed at both ends, with the appropriate point designed to light and indicate the ship's movements to port or starboard.

Visible for two to three miles in normal visibility, the arrows are composed of twenty-eight 100-watt bulbs enclosed in amber globes.

The signal's control box is located on the forward bulkhead of the wheelhouse, directly in front of the magnetic compass. When the signal switch is thrown, the arrows flash for a period of 30 seconds, while green or red lights on the control panel indicate whether the arrows are pointed starboard or port.

The 30-second period is arbitrary, with a number of settings available. Other switches make it possible to keep the arrows illuminated if a turn takes longer than 30 seconds or to turn the lights off if the turn is completed sooner.

Lights in the signals are powered from the emergency switchboard, providing a constant supply of power in case of a breakdown in the ship's electrical system.

## COAST GUARD PUBLICATION

The June 1959 edition of *Aids to Marine Navigation of the United States*, CG-193, now is available for free distribution to the public.

Copies of the publication may be obtained from the nearest Marine Inspection Office of the U.S. Coast Guard or from the Commandant (CHS), U.S. Coast Guard, Washington 25, D.C.



# INTERNATIONAL ICE PATROL AND ICE CONSERVATION SERVICES, 1960

## GENERAL INFORMATION

THE United States Coast Guard will resume operations and services of the International Ice Patrol for the 1960 ice season at such time as ice conditions make it advisable, normally in February or March.

The primary objective of the International Ice Patrol is to ascertain the location and drift of icebergs and field ice which endanger, or soon may endanger shipping in the vicinity of the Grand Banks of Newfoundland, to determine the southeastern, southern, and southwestern limits of that ice and to disseminate this information for the guidance and warning of shipping.

To accomplish this objective, International Ice Patrol employs aircraft based at Argentia, Newfoundland for aerial ice observation, a vessel for surface patrol when necessary, and an oceanographic vessel for the mapping of ocean currents. The Ice Patrol collects ice, weather and sea temperature reports from shipping and aircraft traversing the Ice Patrol areas, evaluates all ice information in the light of meteorologic and oceanographic conditions, and by means of U.S. Coast Guard Radio Argentina (NIK) communicates to shipping the ice situation in the Grand Banks area.

## IMPORTANCE OF ICE, VISIBILITY, SEA TEMPERATURE AND WEATHER REPORTS FROM SHIPPING

Each ice bulletin by NIK will contain a request for all ships to report any ice sighted, and when in the area between latitudes 39° N. and 49° N. and longitudes 42° W. and 60° W. to report every four hours ship's position, course, speed, visibility, sea temperature and weather conditions. These reports by shipping are of the utmost importance to the International Ice Patrol. During periods of low visibility or low ceilings when aerial ice observation is rendered ineffective, ice reports by shipping are invaluable in aiding the Ice Patrol to relocate drifting ice and to keep the position of that ice, as reported in the ice bulletins, up to date. The visibility reports are of considerable value in planning ice observation flights to avoid areas where poor visibility precludes effective air scouting and to concentrate in other areas. Visibility reports are also useful in deciding whether or not special warnings on ice conditions should be broadcast. Sea temperatures reported to the Ice Patrol are used to construct isotherm charts employed in estimating ice melting rates

and detecting shifts in the branches of the Labrador Current. Wind data are useful in estimating set and drift of ice, especially field ice, and in forecasting weather for the purpose of planning ice observation flights.

In reporting ice to NIK, it is important that certain information be furnished in order that the report be evaluated correctly, especially from the standpoint of ruling out occasional erroneous reports and obviating unnecessary searches and warnings to shippings. The information desired is (1) the type of ice sighted, i.e., berg, growler or field ice, (2) the position of the ice (not the position of the reporting ship), (3) the sea temperature at point of closest approach to the ice and (4) weather and visibility conditions.

In view of the heavy reliance placed by Commander, International Ice Patrol, on reports of ice, visibility, sea temperatures, and weather from shipping, all shipmasters are strongly urged to make these reports. It is realized that ships with but one radio operator may find it impracticable to report every four hours as requested. It is therefore suggested that these ships prepare four hourly reports but delay transmitting them until the radio operator comes on watch. A late report is much better than no report.

## COMMUNICATIONS

Ice Bulletins will be broadcast twice daily, at 0048 and 1248 GMT, by U.S. Coast Guard Radio Argentina (NIK) on 155, 5320, and 8502 kcs. Each broadcast will be preceded by the general call CQ on 500 kcs. with instructions to shift to receive on 155, 5320, or 8502 kcs. After shifting to these frequencies, NIK will transmit test signal and the International Ice Patrol radio call sign NIK for about two minutes to facilitate tuning. Transmission of the bulletin will then follow immediately at 15 words per minute and repeated at 25 words per minute. Prescribed radio silent periods will be observed.

When deemed advisable, special ice bulletins may be broadcast in addition to those regularly scheduled. Such special ice bulletins will be preceded by the international safety signal TTT.

Duplex operation will be used between NIK and merchant ships for

NOTE: If a radar target is reported which is believed to be ice but is not actually sighted visually, it should be reported as a radar target, NOT as berg, growler or field ice.

general radio communications such as requests for special information, reports made by merchant ships of ice sighted, sea temperatures, visibility and weather conditions.

Merchant ships may call NIK on 500 kcs. and 8 mc. maritime calling band continuously; also 12 mc. band during day and 6 mc. band at night. Ships work 425, 448, 454, 468, or 480 kcs. or their assigned 8 mc. and 6 mc. or 12 mc. working frequency. NIK will work 427 kcs., 8734 kcs., and 6477.5 kcs. (night) or 12718.5 kcs. (day). The surface patrol vessel, radio call sign NIDK, when on station will relay between NIK and ships when necessary. There is no charge for these services.

Throughout the ice season, U.S. Navy Radio Washington (NSS) will broadcast twice daily ice reports as furnished by Commander, International Ice Patrol, at 0430 and 1630 GMT.

Further notice will be given as to the exact date when the broadcast of ice bulletins and operations of the International Ice Patrol will commence.

Until the inauguration of International Ice Patrol services, all reports of ice sightings should be addressed to the U.S. Navy Hydrographic Office, Washington, D.C., and thereafter to Commander, International Ice Patrol (NIK).

In accordance with the provisions of the Atlantic Merchant Vessel Reporting Program, U.S. Coast Guard Radio Argentina (NIK) will accept Merchant Vessel Position Reports for relay to U.S. Coast Guard, New York. These reports should be separate from the ice and sea temperature reports addressed to Commander, International Ice Patrol.

## WARNING

Carefully conducted tests by the International Ice Patrol during the 1959 Season showed that radar cannot provide positive assurance for iceberg detection. An iceberg is only one-sixtieth as good a radar reflector as a comparable sized ship. Sea water is a better reflector than ice. The latter statement means that unless a berg or growler is observed on radar outside the area of sea "return" on the scope, it will not be detected by the radar. Furthermore, the average maximum range of radar detection of a dangerous size growler is four miles.

Radar is a valuable aid but its use cannot replace the traditional caution exercised in a passage across the Grand Banks during the ice season.

# THE USE OF PLASTIC PIPE ABOARD MERCHANT VESSELS

By Commander George C. Steinman, USCG

The material requirements given in U.S. Coast Guard regulations are minimum requirements. They are not intended to bar the introduction of the equivalent and sometimes superior products which are constantly being developed. Recognition of suitable or improved materials that may differ from those specified in the regulations is an important facet of the Coast Guard's rule making procedure. New materials must, however, be given careful and serious consideration.

Prior to a formal rule change, Coast Guard regulations authorize the Commandant to accept alternate material, provided formal application is made giving full information as to its characteristics and the necessary scientific data to establish its suitability and safety. Authorization to use alternative material may be handled by special internal instructions (letter, Merchant Marine Safety Instruction, or Navigation and Vessel Inspection Circular). Repeated use of such material may warrant the formal application for an amendment to the regulations authorizing its use within certain operating conditions.

A firm policy regarding the use of plastic pipe aboard merchant vessels was established by the Coast Guard in 1955 when the Commandant authorized its use under the regulations permitting the acceptance of alternate materials which provide equivalent or better safety. In its initial stage, this authorization was made by individual letter.

During 1955 and 1956, the large number of requests for letters of authorization made it apparent that a formal change in the regulations was necessary. An amendment to the Marine Engineering Regulations and Material Specifications was, therefore, proposed and accepted by the Merchant Marine Council, U.S. Coast Guard, for its incorporation in the Agenda for the 1957 Public Hearing.

After discussion of the proposals at the public hearing, the Council approved the amendments which were published in the Federal Register of December 12, 1957.

Commander George C. Steinman, USCG, Chief Marine Engineering Branch, Merchant Marine Technical Division, U.S. Coast Guard, discussed the rules and regulations regarding the use of plastic pipe aboard merchant vessels in a paper delivered at a Plastic Pipe Seminar in Pascagoula, Miss., in November 1959.

## COAST GUARD REQUIREMENTS FOR USE OF PLASTIC PIPE

COAST GUARD REGULATIONS covering plastic pipe are contained in the Marine Engineering Regulations and Material Specifications, Coast Guard Publication CG-115. The regulations in this pamphlet are copied from Subchapter F of Chapter I, Title 46 (Shipping) of the Code of Federal Regulations, and are the requirements in effect at the present time.

The requirements for plastic pipe on merchant vessels as published in Subchapter F are as follows:

### ABOUT THE AUTHOR

COMMANDER GEORGE C. STEINMAN was assigned to Staff duty with the Marine Engineering Branch, Merchant Marine Technical Division at Coast Guard Headquarters in 1948 and became Chief of the Branch in 1957. He is a member of the Society of Naval Architects and Marine Engineers, the American Society for Testing Materials and the American Welding Society. Prior to his Coast Guard service, he served with the Army of the United States (Reserve), where he attained the rank of Lieutenant Colonel. He also was Transportation Officer with the Sixth Army in the Southwest Pacific Area during World War II.



## "Part 55—PIPING SYSTEMS AND APPURTENANCES

### 55.07-1 Material \* \* \*

(h) (1) Except as otherwise provided for in this paragraph, plastic pipe may be used for fresh and salt water supply to quarters, sanitary drains, cooling water supply to non-vital machinery and to all machinery fitted with a duplicate standby unit, and for other piping systems as may be authorized by the Commandant. Plastic pipe shall not be used in systems which lead through watertight decks or bulkheads, nor in any overboard discharge line outboard of the required overboard discharge valves.

(2) Plastic piping shall be limited to a maximum pressure of 150 p.s.i. and a maximum temperature of 140° F., or as may be authorized by the Commandant.

(3) Material used in the fabrication of plastic pipe shall be unplasticized rigid polyvinylchloride (PVC) or reinforced resins, or such other plastic material as may be authorized by the Commandant. The flammability of the plastic pipe shall not exceed the burning rate of the self-extinguishing type as determined by the standard ASTM test method (D 635).

(4) The wall thickness of plastic pipe shall not be less than Schedule 40 I.P.S. The pipe shall be designed to withstand a hydrostatic

bursting pressure of not less than 5 times the maximum allowable pressure and shall have a minimum tensile strength of at least 5,000 p.s.i.

(5) Pipe joints shall be of the slip-sleeve, socket or screwed type. Screwed joints shall be on pipe having at least Schedule 80 wall thickness.

It must be recognized, that notwithstanding the many advantages claimed for plastic pipe on ships, such as corrosion resistance, lightweight and lower material and installation costs, there remain certain limitations in the use of plastic pipe when replacing metallic piping aboard ships. The essential differences between metallic and plastic pipe with regard to merchant ship safety are (1) strength and (2) fire resistance. Because plastic pipe possesses less strength and resistance to high temperature than most common metals, its use aboard merchant ships has been limited, in general, to nonvital piping systems. The criterion used to limit plastic pipe can be stated simply: plastic pipe should not be accepted for any piping system, the failure of which may result in the vessel becoming a casualty, or in endangering the safety of the vessel.

Unless otherwise specifically authorized by the Commandant, plastic



pipe is not acceptable for such services as:

1. fire main systems,
2. bilge and ballast systems,
3. cooling water to main or auxiliary propulsion machinery,
4. piping conveying inflammable or combustible liquids,
5. feed and condensate systems,
6. oil tank vent and sounding piping,
7. steam and exhaust piping,
8. any piping system operating at pressures and temperatures exceeding 150 p.s.i. and 140° F.,
9. deck and bulkhead fittings and overboard discharge piping outboard of the required overboard discharge valves.

The permissible piping systems for plastic pipe are listed in the regulations, prescribed in 46 CFR 55.07-1(h). For piping systems which lead through watertight decks or bulkheads, plastic pipe may be used provided steel shutoff valves and spool pieces are fitted to the bulkhead to maintain watertight integrity. If the plastic pipe is used in lines piercing bulkheads where failure of the piping may occur due to fire and it is possible for water to flood from one compartment to another, the shutoff valve is required to be fitted at the bulkhead and made operable from above the bulkhead deck.

Under certain conditions of installation, the Coast Guard may permit the use of plastic pipe in the so-called vital piping systems, such as bilge and ballast piping, provided it can be shown to the satisfaction of the Commandant that the proposed modifications and installation provide a degree of safety at least equivalent to steel pipe. A recent example of this principle of equivalency was the approval of plastic pipe for a ballast system on a Great Lakes Ore Carrier. In this particular case, the piping was run in way of the double bottom ballast tanks under the ore holds and the piping system was fitted with steel valves and steel piping from each suction intake to the first bulkhead within each ballast compartment. All bulkhead penetrations were fitted with steel spool pieces. Great Lakes Ore Carriers are normally not required to be fitted with shutoff valves at the bilge or ballast tank or compartment suctions when steel piping is installed. As a condition of approval of plastic pipe for ballast piping on this vessel, suction valves were fitted in each watertight compartment, with steel piping between the watertight bulkhead and the valve. In effect, this arrangement made the system as safe, as or safer than, comparable steel piping systems, because in the

event of a collision or grounding, it would be impossible to backflood all of the ballast tanks.

Plastic pipe material permitted under the present Coast Guard regulations are the unplasticized rigid polyvinylchloride (PVC) type or reinforced resins, such as the fiberglass reinforced epoxy resins. The material must be self-extinguishing as determined by the standard ASTM test method, ASTM D635, and have a minimum tensile strength of at least 5,000 p.s.i.

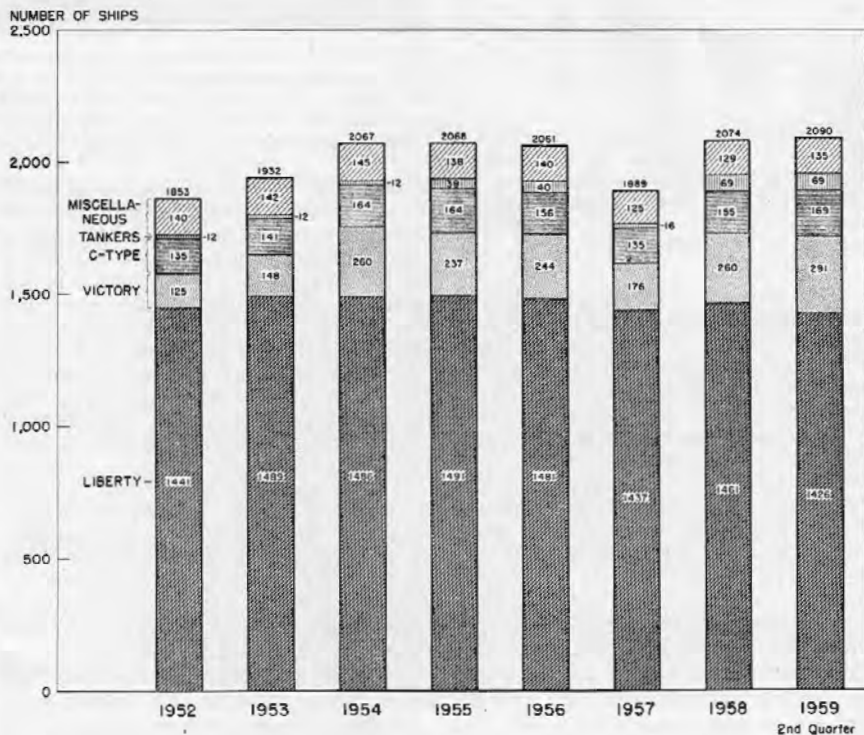
#### APPROVAL PROCEDURES FOR PLASTIC PIPING INSTALLATIONS

Approvals of plastic pipe installations on merchant vessels subject to Coast Guard inspection are handled by the Merchant Marine Technical Staff in Washington, or by Merchant Marine Technical Sections now being established in the field inspection offices. Two such technical field offices have been activated to date: one at New Orleans, covering the 2d, 7th and 8th Coast Guard Districts and

the second one in San Francisco, covering the 11th, 12th, 13th, 14th, and 17th Coast Guard Districts. The MMT Sections in the 8th and 12th Coast Guard Districts will handle approval of plastic piping systems coming within the permissive scope of the regulations. For approval of piping systems not specifically permitted by the regulations, plans and specifications should be submitted to the Commandant (MMT-2), U.S. Coast Guard, Washington 25, D.C. for evaluation. Plans in triplicate should be submitted to the appropriate office, showing the installation of the plastic pipe and giving full particulars as to material specifications. Under any conditions, where the use of plastic pipe is questioned because of the interpretation of the service or system, it would be well to first check with the local Coast Guard Marine Inspection office. If the question cannot be resolved locally, the matter would then be referred to the Commandant for action.

## TOTAL SHIPS IN RESERVE FLEETS

FISCAL YEARS 1952 - 1959





# MARITIME SIDELIGHTS

American Export Lines and the Federal Maritime Board have reached agreement on a new 20-year operating-differential subsidy contract to assure U.S.-flag services on three essential United States Foreign Trade Routes, including the Great Lakes.

The new contract makes provision for the replacement by American Export Lines of 22 ships of its 30-ship fleet, including the *SS Independence* and the *SS Constitution*, two of the major cargo passenger vessels of the American Merchant Marine. The other eight vessels of American Export Lines' replacement program are already underway, in keeping with a former contract which expired on December 31, 1959 and was replaced by the new 20-year contract.

✦ ✦ ✦

Sperry Piedmont Co., a division of Sperry Rand Corp., has opened an environmental test center in Charlottesville, Va. In addition to devices to simulate conditions at sea, the test center includes machinery to produce shocks and vibrations, and an all weather test chamber in which temperatures of from 350 degrees to minus 100 degrees F. are produced.

✦ ✦ ✦

Bull-Insular Line has announced its plans to expand its cargo-container service and has placed an initial order for 196 aluminum cargo containers. The expanded service is scheduled to begin next spring.

✦ ✦ ✦

The Maritime Administration has announced the award of a \$1.5 million contract to Gruman Aircraft Corp., an affiliate of Dynamic Developments, Inc., to design and construct an 80-ton "open sea" hydrofoil craft.

Designed to operate in the open seas by utilizing hydrofoils to lift the hull out of the water, thus freeing the hull from the drag normally encountered by a vessel, the 104-foot long craft will be powered by a gas turbine aircraft type engine.

✦ ✦ ✦

The year of 1959 at the Port of New York set a new high for arrivals and departures of deep sea vessels. The rising trend in the number of vessels using the port, which has been evi-

## NEW SUN OIL TANKER



THE NEW 50,000 deadweight ton supertanker *SS Pennsylvania Sun*, biggest ship of the Sun Oil Co. fleet, plows ahead at 17½ knots in the picture above. The 745-foot long ship, with a capacity of 417,000 barrels of oil, boasts the first 360-degree pilot house installed on a tanker. She is also equipped with a single channel ship-to-ship radiotelephone, two radar stations, true motion radar repeater, dead reckoning analyzer, and a stern anchor.

dent for some years, continued throughout the year. The total number of oceangoing vessels, incoming and outgoing during 1959, registered a record total of 27,260, a gain of 3.6 percent over 26,281 vessels recorded in 1958. Ship arrivals during the year climbed to an all-time high of 13,597, with an aggregate net tonnage of 72,121,592, as compared with the previous year's record of 13,134 vessels having an aggregate net tonnage of 58,415,038.

✦ ✦ ✦

The tug *Dravo Pioneer*, the first of its type to be used in a deep-water area, is now operating in New York Harbor. The new tug, operated by the Dalzell Towing Co., is fitted with a combination of the "Kort nozzle" and steering and backing rudders, which according to the maritime press will give 20 percent more power and considerably more maneuverability than

comparable tugs with conventional propellers and rudders.

✦ ✦ ✦

A rapid technique for measuring the depth of polar ice has been developed by Army scientists.

The new method employs a modified aircraft radio altimeter. It promises to replace the laborious, time-consuming seismic soundings that have been used for such measurements, according to the Army Signal Corps.

✦ ✦ ✦

Every indication suggests that the 1960 International Lifeboat Race, to be held on Sunday, May 22, will be the largest from the point of entries ever held since World War II. The race was begun as an annual event in 1927. Over the years it has become a maritime classic, headline news in seaports throughout the world.



# nautical queries

Q. (a) What is the minimum thickness of wood to be used for hatch boards on weather deck hatches?

(b) What is the minimum number of tarpaulins required for covering hatches, and what is the minimum grade of the material to be used?

A. (a) Two and three-eighths inches.

(b) Two tarpaulins, thoroughly waterproofed and of ample strength, guaranteed free from jute. They shall be not less than No. 4 cotton canvas or No. 6 hemp canvas before waterproofing.

Q. (a) What would be the effect of a wire rope fall jamming in a sheave of the purchase of a jumbo boom when lowering a heavy weight?

(b) Why is extra precaution necessary when winding wire rope for the heavy lift boom on a winch drum, and when winding wire rope for the topping lift of a heavy lift boom on a winch drum?

A. (a) The effect of a wire rope fall jamming in a sheave when lowering a weight on the purchase of a heavy lift boom would put all the stress on that portion of the fall from the standing part to the jammed sheave. If the weight were too heavy for the number of parts of the wire rope sustaining the weight, failure of the fall and consequent damage might result.

(b) Wire rope falls and topping lifts for heavy lift booms must be carefully wound on winch drums so that no sudden slack can occur when lowering the weight or boom. Due to the large number of parts on falls and topping lifts in the usual rig of jumbo booms, the acceleration and the deceleration effect is greatly reduced and factors of safety in the design of the gear are normally less than that for lighter gear. Sudden acceleration due to slipping of loose turns on the drum, overwinding or underwinding, or any kinking might have very dangerous consequences in lowering a heavy load.

Another factor that can be considered is that due to the comparatively greater length of most falls and topping lifts for heavy lift gear, difficulty may be encountered in getting all the wire on the drum unless care is exerted. (The increasing radius of the drum due to the turns of wire in-

creases the force which must be exerted by the winch motor).

Q. (a) When a vessel is fitted with sideports, what precautions must be taken to assure that it is accessible for being secured and for inspection at sea?

(b) How are sideports usually secured?

A. (a) Space must be left available adjacent to the sideport for the ship's personnel to work when securing, and vertical battens or other devices must be rigged to prevent cargo from falling against the sideport so it is accessible for inspection at sea. Access must be available from the deck to the sideport at sea so that it may be inspected.

(b) Sideports are usually secured with heavy bolts and dogs; and if the sideport is large, a heavy strong-back is also used for securing bolts. The bolts must be made up tight to insure that no leakage occurs.

Q. Why is a round pin shackle stronger than a screw pin shackle of the same pin diameter?

A. Round pin shackles are stronger than screw pin shackles of the same diameter because the diameter of the pin is not reduced by threading.

Q. (a) Compare the use of manila and wire for mooring and towing use.

(b) How may some of the disadvantages of wire for the above services be diminished?

A. (a) Wire does not have the stretch or "give" of manila rope. Sudden repeated stresses or "jerks" may cause it to fail and snap. In handling on gypsyheads or capstans it is more difficult and dangerous than manila. On the other hand, it is light in weight compared to manila and when properly cared for lasts longer.

(b) Wire rope is well suited for use in mooring when used with mooring winches which maintain constant tension and prevent sudden and heavy stresses, and the same may be said for towing winches. Wire rope shackled to manila is often used in towing, the manila to provide "give" and the wire for resistance to chafing and for ease of handling. Chain can also be used with wire rope, the elasticity or "give" in this case being provided by the weight of the chain forming a "catenary" curve which acts as a spring to prevent sudden stress.

Q. (a) When using turnbuckles for securing gear, particularly where the turnbuckles are inaccessible for routine inspection, what precautions should be taken to insure that the turnbuckle does not back off?

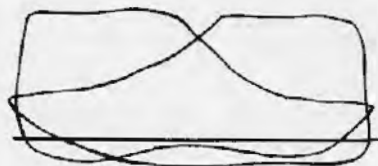
(b) Is a hook or a shackle of the same size stronger?

A. (a) Turnbuckles fitted with lock nuts should be used; or if these are not available, a short stick or similar object should be put through the turnbuckle and lashed to prevent its turning.

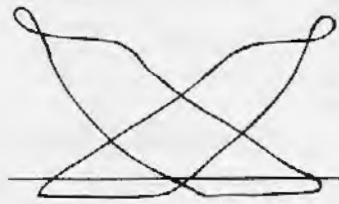
(b) A shackle is stronger than a hook of the same size.

## STEAM INDICATOR

Q. Indicate the probable cause of the faulty performance of the engine, as shown by the deviations of the following illustrations.



1.



2.

A. 1. Insufficient angular advance—Shown by all the operations of the valve on both sides being too late.

2. Excessive angular advance—Shown by all the operations of the valve on both sides being too early.



# MERCHANT MARINE PERSONNEL STATISTICS

## MERCHANT MARINE OFFICER LICENSES ISSUED

QUARTER ENDING 31 DECEMBER 1959

### DECK

Grade	Original	Renewal	Grade	Original	Renewal
<b>Master:</b>			<b>Third mate:</b>		
Ocean.....	33	510	Ocean.....	11	61
Coastwise.....	6	37	Coastwise.....		
Great Lakes.....	4	25	<b>Pilots:</b>		
B.S. & L.....	14	97	Great Lakes.....	4	11
Rivers.....	13	42	B.S. & L.....	103	39
<b>Radio Officer Licenses issued:</b>	12	236	Rivers.....	79	26
<b>Chief mate:</b>			<b>Master: Uninspected Vessels</b>	6	15
Ocean.....	35	95	<b>Mate: Uninspected Vessels</b>	19	31
Coastwise.....		2	<b>Motorboat Operators</b>	147	297
<b>Mate:</b>			<b>Total</b>	525	1,613
Great Lakes.....					
B.S. & L.....			<b>Grand Total</b>	2,138	
Rivers.....					
<b>Second mate:</b>					
Ocean.....	40	96			
Coastwise.....		1			

### ENGINEER

Grade	Original	Renewal	Grade	Original	Renewal
<b>STEAM</b>			<b>MOTOR—continued</b>		
<b>Chief engineer:</b>			<b>First assistant engineer:</b>		
Unlimited.....	31	475	Unlimited.....	4	16
Limited.....	2	83	Limited.....	17	18
<b>First assistant engineer:</b>			<b>Second assistant engineer:</b>		
Unlimited.....	33	192	Unlimited.....	4	25
Limited.....	1	7	Limited.....	2	2
<b>Second assistant engineer:</b>			<b>Third assistant engineer:</b>		
Unlimited.....	42	229	Unlimited.....	3	292
Limited.....			Limited.....	3	
<b>Third assistant engineer:</b>			<b>Chief engineer: Uninspected</b>		
Unlimited.....	25	238	<b>Vessels</b>	7	8
Limited.....		1	<b>Assistant engineer: Unin-</b>		
<b>MOTOR</b>			<b>spected Vessels</b>	2	4
<b>Chief engineer:</b>			<b>Total</b>	211	1,838
Unlimited.....	3	108			
Limited.....	32	140	<b>Grand Total</b>	2,049	

### WAIVER OF MANNING REQUIREMENTS

Waivers	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes	Total
Deck officers substituted for higher ratings.....					
Engineer officers substituted for higher ratings.....			1		1
Ordinary seamen for able seamen.....	1				1
Wiper or coalpassers for qualified member engine dept.....					
<b>TOTAL WAIVERS</b>	1		1		2
Number of vessels.....	1		1		2

### ORIGINAL SEAMEN'S DOCUMENTS ISSUED

Type of document	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes and rivers	Total
Staff Officer.....	27	5	20	1	53
Continuous Discharge Book.....	2	31			33
Merchant Mariner's Documents.....	983	472	577	882	2,914
AB any waters unlimited.....	74	34	40	20	168
AB any waters, 12 months.....	35	14	20	36	105
AB Great Lakes, 18 months.....	6		2	19	27
AB Tugs and Towboats, any waters.....			1		1
AB Bays and Sounds.....	3				3
AB Seagoing Barges.....		1			1
Lifeboatman.....	164	3	66	4	237
QMED.....	79	43	43	76	241
Radio Officer.....	3	1	1	1	6
Certificate of Service.....	933	443	550	795	2,721
Tankerman.....	9	59	4	74	146
<b>Total</b>	2,318	1,106	1,324	1,908	6,656

### INVESTIGATING UNITS

Coast Guard Merchant Marine Investigating Units and Merchant Marine Details investigated a total of 3,289 cases during the fourth quarter of 1959. From this number, hearings before examiners resulted in involving 43 officers and 247 unlicensed men. In the case of officers, 1 license was revoked, 3 were suspended without probation granted, 12 were suspended with probation granted, 11 cases were dismissed after hearing, and 5 hearings were closed with admonitions. Of

the unlicensed personnel, 16 documents were revoked, 11 were suspended without probation, 78 were suspended with probation granted, 21 cases were dismissed after hearing, and 14 hearings were closed with admonitions. Nine licenses and 73 documents were voluntarily surrendered.

# MERCHANT MARINE STATISTICS

There were 939 vessels of 1,000 gross tons and over in the active ocean-going U.S. Merchant fleet on January 1, 1960, according to the Maritime Administration. This was 16 more than the number active on December 1, 1959.

There were 31 Government-owned and 908 privately owned ships in active service. These figures did not include privately owned vessels temporarily inactive, or Government-owned vessels employed in loading grain for storage. They also exclude 26 vessels in the custody of the Departments of Defense, State, and Interior.

There was an increase of 14 active vessels and a decrease of 14 inactive vessels in the privately owned fleet. A tanker was converted to a bulk carrier, *Martha Mac*, and two tankers were delivered from construction, the *Gulfstar* and the *Pennsylvania Sun*. One freighter, the *Valley Forge*, and a tanker, the *National Peace*, were marine casualties. This left the total privately owned fleet at 1,023, which was 16 more than the number privately owned on January 1, 1959. Of the 115 privately owned inactive vessels, 55 dry cargo ships and 39 tankers were laid up for lack of employment, 17 less than on December 1. The others were undergoing repair or conversion.

The Maritime Administration's active fleet increased by 2, while its inactive fleet increased by 6. Two Liberty ships and two military type ships were sold for scrap. One vessel was transferred to the New York Maritime Academy. Fourteen Navy-owned and one Coast and Geodetic Survey ship were turned over to the Administration Fleet, while two Navy-owned ships were returned to the Navy. This made a net gain of 8 in the Administration's fleet, or a total of 2,055, which was 65 less than a year ago. The total U.S. merchant fleet increased by 8 to 3,078, or 49 less than on January 1, 1959.

No new ships were ordered but two passenger ship conversion contracts were placed. Two tankers, a ferry, a tanker conversion, and a bulk conversion were delivered. The total of large merchant ships on order or under construction in U.S. shipyards dropped to 67, which was 22 ships less than on January 1, 1959.

Seafaring jobs on active oceangoing U.S.-flag ships of 1,000 gross tons and over, excluding civilian seamen manning Military Sea Transportation Service ships, were 48,659. Prospective officers in training in Federal and State nautical schools numbered 2,148.

NAVIGATION AND VESSEL  
INSPECTION CIRCULAR  
NO. 1-60

January 22, 1960

Subj: Restriction of continued use of mutilated Merchant Mariner's Documents and simplified procedures for replacement of existing mutilated Merchant Mariner's Documents

1. *Purpose.* To notify owners, Masters, holders of specially Validated Merchant Mariner's Documents, Maritime Unions, and other interested persons of the following:

a. A simplified procedure for the replacement of certain mutilated documents

b. Restriction on use of mutilated documents

2. *Discussion.* Many of the Specially Validated Merchant Mariner's Documents in current use are mutilated. In most cases this condition is due to age, normal use or faulty lamination. However, there are a disturbing number of cases wherein it has been found that the documents have been deliberately tampered with for the purpose of fraudulent use. It is believed that continued use of even slightly mutilated documents invites such fraudulent use when they are lost or otherwise fall into the hands of unscrupulous persons.

To reduce this possibility a simplified procedure has been established whereby a seaman may obtain a replacement for a mutilated document with a minimum of delay and inconvenience. Henceforth in those cases where the mutilation is a result of age, general use, or faulty lamination a seaman may upon presentation of the necessary photographs secure a replacement document on an exchange basis, without cost, at any Marine Inspection Office. As a further deterrent no mutilated document will be accepted for employment by Coast Guard Shipping Commissioners after 1 January 1961.

3. *Action.* It is urged that all holders of mutilated Specially Validated Merchant Mariner's Documents apply for replacements as soon as possible and that persons in charge of the employment of seamen advise all interested parties of the restriction against the employment of holders of mutilated Specially Validated Merchant Mariner's Documents, which becomes effective 1 January 1961.

H. T. JEWELL,  
Rear Admiral, USCG,  
Chief, Office of Merchant Marine  
Safety.

By direction of the Commandant.

AMENDMENTS TO REGULATIONS

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

TITLE 33—NAVIGATION AND  
NAVIGABLE WATERS

Chapter 1—Coast Guard, Department of the Treasury

SUBCHAPTER E—NAVIGATION REQUIREMENTS FOR THE GREAT LAKES AND ST. MARY'S RIVER

[CGFR 59-65]

PART 92—ANCHORAGE AND  
NAVIGATION REGULATIONS; ST.  
MARY'S RIVER, MICHIGAN

Temporary Closure of West Neebish Channel

The purpose for this document is to announce that the West Neebish Channel is temporarily closed to traffic to permit deepening the channel by dredging; to announce the establishment of a temporary Lookout Station No. 2 while at the same time temporarily closing Lookout Station No. 4; to prescribe special rules and traffic lanes for the Middle Neebish Channel and the Munuscong Channel; and to require special reporting procedures for vessels passing through the Middle Neebish Channel.

The amendment to 33 CFR 92.09 describes the temporary changes in Coast Guard Lookout Stations. A new section designated 33 CFR 92.10 describes the location of the temporary Lookout Station No. 2. The new regulation designated 33 CFR 92.18 prescribes special rules and traffic lanes for downbound and upbound traffic during the temporary closure of the West Neebish Channel. The amendment to 33 CFR 92.19 provides that the West Neebish Channel shall be temporarily closed until further notice. The new regulation designated 33 CFR 92.26 sets forth special reporting procedures to be followed by vessels passing through the Middle Neebish Channel.

It is hereby found that compliance with the Administrative Procedure Act (respecting notice of proposed rule making, public rule making procedures thereon, and effective date requirements thereof) is not necessary since the deepening of the West

Neebish Channel to 27 feet is a Corps of Engineers' project.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Order dated July 31, 1950 (15 F.R. 6521), to promulgate regulations in accordance with the Act of March 6, 1896, as amended, the following amendments and regulations in this document are prescribed, which shall become effective on date of publication in the Federal Register:

1. Section 92.09 is amended to read as follows:

§ 92.09 Lookout stations.

Lookout stations for the St. Mary's River patrol are numbered and located as follows:

No. 1 on Johnson Point, Sailors Encampment, Middle Neebish Channel.

No. 2 on Neebish Island, Middle Neebish Channel. (Temporary during closure of West Neebish Channel.)

No. 3 off Mission Point, Little Rapids Cut.

No. 4 at upper end of Rock Cut, West Neebish Channel. (Temporarily closed during closure of West Neebish Channel.)

No. 6 off Brush Point, upper St. Mary's River.

2. Part 92 is amended by inserting the following new section:

§ 92.10 Temporary Lookout Station No. 2.

Lookout Station No. 2 will be located at latitude 46°19.3' N., longitude 84°09.0' W., or 1,000 feet, 203° from Middle Neebish Channel Light 40 (LL 1428).

3. Part 92 is amended by inserting the following new section:

§ 92.18 Special rules for traffic in portions of Middle Neebish Channel.

(a) In the Middle Neebish Channel between Lake Munuscong and Lake Nicolet, the westerly 300-foot portion of the channel has been deepened to 27 feet and the easterly 200-foot portion of the channel remains at the previous project depth of 21 feet. Therefore, all downbound traffic shall use the westerly (27-foot depth) portion of the Middle Neebish Channel and all upbound traffic shall use the easterly (21-foot depth) portion of this channel.

(b) There are no special aids to navigation to mark the line between the westerly (27-foot depth) portion and the easterly (21-foot depth) portion of the Middle Neebish Channel.

(c) All the range lights marking the traffic lane for downbound traffic in the westerly portion of the channel will be white lights on white structures. All the range lights marking the traffic lane for upbound traffic in the easterly portion of the channel will be red lights on red structures.

4. Section 92.19 is amended to read as follows:

#### **§ 92.19 Temporary closure of West Neebish Channel.**

(a) Until further notice, the West Neebish Channel shall be closed to traffic to permit dredging.

(b) With the closure of the West Neebish Channel, both downbound and upbound traffic will be restricted to the Middle Neebish Channel and the Munuscong Channel.

(c) The closure and obstruction signals will be shown from Lookout Stations Nos. 2 and 3.

5. Part 92 is amended by inserting the following new section:

#### **§ 92.26 Special reporting procedures for vessels passing through the Middle Neebish Channel.**

(a) When in the middle of Lake Munuscong, all upbound vessels shall notify the Coast Guard Control Office, St. Mary's River Patrol (Radio telephone call: "Soo Control"), of their estimated times of passage at Detour Light and their estimated times of arrival at Johnson Point.

(b) Similarly, all downbound vessels shall report their estimated times of passage at Parisienne Island (Ile Parisienne); and, when abreast of Coast Guard Lookout Station No. 2, such vessels shall report their estimated times of arrival at Johnson Point.

(Secs. 1-3, 29 Stat. 54-55, as amended; 33 U.S.C. 474)

Dated: December 30, 1959.

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

[F.R. Doc. 60-130; Filed, Jan. 6, 1960;  
8:48 a.m.]

## **TITLE 46—SHIPPING**

### **Chapter I—Coast Guard, Department of the Treasury**

[CGFR 59-57]

#### **MISCELLANEOUS AMENDMENTS**

The miscellaneous amendments in this document are intended to (1) show more clearly the intent and application of regulations; (2) revise procedural requirements to reflect current practices; (3) remove pro-

cedures no longer deemed necessary; (4) bring certain definitions up-to-date and in agreement with latest standards used in the maritime industry; and (5) make necessary editorial corrections.

The changes in 46 CFR 10.02-21; 10.15-21 and 187.05-1(g) provide for a distribution of only appropriate Coast Guard publications to persons desiring to secure licenses. The changes in 46 CFR 10.05-3(a)(8), 10.05-5(a)(9), 10.05-46(c), 10.25-7(e)(3), and 10.25-9 (c) and (d) are to show more clearly the intent and application of such regulations, to delete references to administrative reports on examinations, or to control certain ratings no longer used. The changes in 46 CFR 72.05-10 (n) and (q) clarify the application of such regulations. The change in 46 CFR 73.45-1 removes an incorrect reference so that the regulations for passenger vessels will be consistent with the requirements in the International Convention for Safety of Life at Sea, 1948. Changes in 46 CFR Subpart 110.15 regarding definitions used with respect to Electrical Engineering brings them up-to-date, also deletes many number references to the American Standard Association's specification numbers because of changes in such numbers. The changes in 46 CFR 157.30-30 correct references to the "Act of April 25, 1940, as amended."

Because the amendments in this document are editorial in nature, it is hereby found that compliance with the Administrative Procedure Act (respecting notice of proposed rule making, public rule making procedure thereon, and effective date requirements thereof) is deemed to be unnecessary.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Orders 120, dated July 31, 1950 (15 F.R. 6521), 167-9, dated August 3, 1954 (19 F.R. 5915), 167-14, dated November 26, 1954 (19 F.R. 8026), 167-20, dated June 18, 1956 (21 F.R. 4894), CGFR 56-28, dated July 24, 1956 (21 F.R. 7605), and 167-38, dated October 26, 1959 (24 F.R. 8857), to promulgate regulations in accordance with the statutes cited with the regulations below, the following regulations are prescribed and shall become effective upon the date of publication of this document in the Federal Register:

(Federal Register of January 8, 1960)

#### **FUSIBLE PLUGS**

The regulations prescribed in Subpart 162.014, Subchapter Q Specifi-

cations, require that manufacturers submit samples from each heat of fusible plugs for test prior to plugs manufactured from the heat being used on vessels subject to inspection by the Coast Guard. A list of approved heats which have been tested and found acceptable during the period from 15 December 1959 to 15 January 1960 is as follows:

*The Lunkenheimer Co., Cincinnati*  
14, Ohio, Heat Nos. 612, 613, 614 and 615.

## **ARTICLES OF SHIPS' STORES AND SUPPLIES**

Articles of ships' stores and supplies certificated from 1 January to 31 January 1960, inclusive, for use on board vessels in accordance with the provisions of Part 147 (46 CFR 146-147) of the Dangerous Cargo Regulations are as follows:

#### **CERTIFIED**

*Wright Chemical Corp., 627 W. Lake St., Chicago 6, Ill., Certificate No. 409, dated 4 January 1960, MARINE FUEL OIL CONDITIONER.*

*W. M. Barr & Co., 2336 S. Lauderdale, Memphis 6, Tenn., Certificate No. 410, dated 7 January 1960, FORMULA "A" PAINT REMOVER.*

*The Dow Chemical Co., Midland, Mich., Certificate No. 411, dated 1 January 1960, CHLOROTHENE-NU.*

*W. M. Barr & Co., 2336 S. Lauderdale, Memphis 6, Tenn., Certificate No. 412, dated 7 January 1960, KLEAN STRIP PAINT REMOVER.*

*W. M. Barr & Co., 2336 S. Lauderdale, Memphis 6, Tenn., Certificate No. 413, dated 7 January 1960, BARCO NO. 4000 MARINE PAINT AND VARNISH REMOVER.*

*W. M. Barr & Co., 2336 S. Lauderdale, Memphis 6, Tenn., Certificate No. 414, dated 7 January 1960, NEW, IMPROVED HEAVY BODIED PAINT REMOVER.*

*Montgomery Chemical Co., Jenkinstown, Pa., Certificate No. 415, dated 14 January 1960, SLUDGE SOLVENT NO. 32.*

*Virginia Smelting Co., West Norfolk, Va., Certificate No. 416, dated 15 January 1960, LETHALAIRE V-24.*

*Virginia Smelting Co., West Norfolk, Va., Certificate No. 417, dated 15 January 1960, LETHALAIRE JR-4.*

*Dunham Chemical Co., 840 N. Michigan Ave., Chicago 11, Ill., Certificate No. 418, dated 15 January 1960, DUNHAM D-100.*

#### **AFFIDAVITS**

The following affidavits were accepted during the period from 15 De-



cember 1959 to 15 January 1960:

*Erner-Dodge, Inc.*, P.O. Box 565,  
Coffeyville, Kans., FITTINGS.

*Bendix-Westinghouse Automotive  
Air Brake Co.*, Elyria, Ohio, VALVES.

*Osaka Hakuyo Valve Co., Ltd.*, 1-  
Chome, Hoariage-Dori, Higashiyodo-  
gawa-Ku, Osaka City, Japan,  
VALVES.

*Hinomoto Ben Kogyo Co., Ltd.*,  
NO676 Serikawa-Cho, Hokone City,  
Japan, VALVES.

*The Kure Shipbuilding & Engr. Co.,  
Ltd.*, 102 Chome, Showa-dori, Kure  
City, Japan, FLANGES AND BOLT-  
ING.<sup>1</sup>

*Kobe Steel Works, Ltd.*, 36-1 Chome,  
Wakinohama-cho, Kobe City, Japan,  
FORGINGS.

*Tokyo Steel Casting Co., Ltd.*, 2-6  
Nihonbashi-dori, Chuo-ku, Tokyo,  
Japan, CASTINGS.

*Nippon Benkan Kogyo Co., Ltd.*, No.  
377 9-Chome Omori, Ota-Ku, Tokyo,  
Japan, FITTINGS.

*Sumitomo Metal Industries, Ltd.*  
(Steel Tube Works), No. 1 (Higashi-  
mukojima, Nichino-cho, Amagasaki  
City, Hyogo Pref., Japan, TUBING.

*Nukura Kogyo Co., Ltd.*, 1-423 Go-  
tanda, Shinagawa-ku, Tokyo, Japan,  
VALVES.

*Mitsumoto Valve Mfg. Co., Ltd.*, 59  
Fujidera-Domyoji-Cho, Minamika-  
wachi-Gun, Osaka-Pref., Japan,  
VALVES.

*Logansport Machine Co., Inc.*, Lo-  
gansport, Indiana, VALVES.

<sup>1</sup> Affidavit covers additional products as  
this company submitted affidavit covering  
valves also.

## CODE OF GOOD PRACTICE

A code of good practice for the stow-  
age of Bulk Cargoes such as Ore, Ore  
Concentrates and Similar Cargoes  
when carried in General Cargo Ves-  
sels has recently been printed by the  
National Cargo Bureau, Inc. at the  
request of the U.S. Coast Guard and  
is now ready for distribution.

This code is designed to provide a  
guide to safe practices and efficient  
procedures to be followed by Masters  
and Ship's Officers charged with the  
responsibility of loading ore and ore  
concentrates which may shift if im-  
properly stowed. It is not designed to  
relieve them from exercising sound  
judgment and good seamanship in the  
performance of their duties.

The booklet has been prepared by  
the Maritime Industry Panel on the  
Stowage of Ore and Ore Concentrates.  
It is now being distributed to the mari-  
time industry. Extracts from the book  
will also appear in various newspapers  
and marine periodicals. Interested  
parties should contact the National  
Cargo Bureau, Inc., 99 John Street,  
New York 38, N.Y.

## MARINE SAFETY PUBLICATIONS AND PAMPHLETS

The following publications and pamphlets are available and may be  
obtained upon request from the nearest Marine Inspection Office of the  
United States Coast Guard. Date of each publication is indicated  
following title.

CG No.	Title of Publication
101	Specimen Examinations for Merchant Marine Deck Officers. 7-1-58
108	Rules and Regulations for Military Explosives and Hazardous Munitions. 8-1-58
115	Marine Engineering Regulations and Material Specifications. 3-1-58
123	Rules and Regulations for Tank Vessels. 4-1-58
129	Proceedings of the Merchant Marine Council. Monthly
169	Rules of the Road—International—Inland. 5-1-59
172	Rules of the Road—Great Lakes. 5-1-59
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids. 7-2-51
175	Manual for Lifeboatmen and Able Seamen, Qualified Members of Engine Department, and Tankerman. 6-1-55
176	Load Line Regulations. 9-2-58
182	Specimen Examinations for Merchant Marine Engineer Licenses. 5-1-57
184	Rules of the Road—Western Rivers. 5-1-59
190	Equipment Lists. 4-1-58
191	Rules and Regulations for Licensing and Certifying of Merchant Marine Personnel. 5-1-59
200	Marine Investigation Regulations and Suspension and Revocation Proceedings. 7-1-58
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels. 4-1-57
227	Laws Governing Marine Inspection. 7-3-50
239	Security of Vessels and Waterfront Facilities. 7-1-58
249	Merchant Marine Council Public Hearing Agenda. Annually
256	Rules and Regulations for Passenger Vessels. 3-2-59
257	Rules and Regulations for Cargo and Miscellaneous Vessels. 3-2-59
258	Rules and Regulations for Uninspected Vessels. 9-1-59
259	Electrical Engineering Regulations. 9-2-58
266	Rules and Regulations for Bulk Grain Cargo. 5-1-59
267	Rules and Regulations for the Numbering of Undocumented Vessels and the Reporting of Boating Accidents. 5-1-59
268	Rules and Regulations for Manning of Vessels. 10-2-59
269	Rules and Regulations for Nautical Schools. 11-1-53
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935. 11-19-52
290	Pleasure Craft. 7-1-59
293	Miscellaneous Electrical Equipment List. 3-10-59
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf. 10-1-59
323	Rules and Regulations for Small Passenger Vessels. (Not More Than 65 Feet in Length) 6-1-58
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 on the table of changes below.

### Changes Published During January 1960

The following have been modified by Federal Registers:

CG-267 Federal Register, January 1, 1960, and January 30, 1960.

CG-172 Federal Register, January 7, 1960.

CG-191, CG-256, CG-259, CG-268, and CG-323 Federal Register, January 8, 1960.

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