PROCEEDINGS OF THE MARINE SAFETY COUNCIL



DEPARTMENT OF TRANSPORTATION

UNITED STATES COAST GUARD

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IN THIS ISSUE . . .

PROCEEDINGS

Ship Collides with Bridge . . .

Modernization of the International Rules of the Road (First in a series of installments) . . .

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COVERS

FRONT COVER: A poor job of ship maintenance? No. This is the wheelhouse of the SS Yorkmar after it met the lowered lift span of a vertical lift railroad bridge. The story of the casualty appears on page 183 of this issue.

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Admiral C. R. Bender, USCG Commandant

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The membership may be expanded by Commandant or Chairman, Marine Sai Council to deal with special problems circumstances.

Lieutenant (jg) A. W. Vander Meer, Jr., Editor

SHIP COLLIDES WITH BRIDGE

The SS Yorkmar was enroute from Newark, N.J., to Baltimore the morning of February 1, 1973. She arrived near the eastern entrance to the Chesapeake and Delaware Canal at about 12:30 a.m. only to find the canal closed due to fog. She dropped anchor, and along with four other vessels which had arrived there earlier awaited clearer weather to transit the canal. Shortly after 6:15 a.m. the Yorkmar received word from the canal dispatcher that visibility had improved, and that the canal was open to westbound traffic. The green traffic control light was turned on indicating this. The Yorkmar followed three other vessels into the canal. The fifth vessel elected to remain at anchor outside the canal.

It was about 6:30 a.m. when the Yorkmar's pilot arrived in the wheelhouse and attempted to contact the canal dispatcher on channel 13. Since he could not get through, the ship's radio operator was summoned and requested to place a call to the dispatcher via the Wilmington Marine Operator. When this call was put through, the pilot explained to the

dispatcher that he could receive on channel 13, but he could not transmit on that channel. He told the dispatcher that the Yorkmar would continue to maintain a listening watch on that frequency, but would call the dispatcher, if necessary, via the facilities of the Wilmington Marine Operator. The dispatcher made no objection to this arrangement and informed the pilot that the Yorkmar was cleared to enter the canal and she should follow the four ships which had anchored earlier. In answer to the pilot's question, the dispatcher assured the Yorkmar that there was nothing in the canal that would interfere with safe passage.

The Yorkmar, under the conn of the pilot, but with her master at all times present on the bridge, proceeded through the Chesapeake and Delaware Canal with varying degrees of poor visibility which was never better than one-quarter of a mile.

Shortly before 8:48 a.m., the Yorkmar's bow lookout and her chief mate, standing together on the lookout's platform in the eyes of the ship

heard what they described as a "toot". A bosun was also on the bow as part of the anchor detail. To the chief mate the toot sounded like the sound signals used by tugs when docking and undocking merchant ships. The sound was reported to the Yorkmar's bridge via telephone. Shortly after this the lookout and the chief mate saw the Penn Central Transportation Company vertical lift bridge loom up out of the fog, about a quarter mile ahead. The chief mate grabbed the telephone, called the ship's bridge and shouted that the center span of the bridge was down. Without hearing an acknowledgement of this information, the chief mate saw that a collision was inevitable, and ordered the bow evacuated.

The chief mate and the bosun, fearing that the entire structure of the railroad bridge would crash down on the Yorkmar's bow, sought shelter under the forecastle head. At about 8:48 a.m. the Yorkmar's bow crashed into the center span of the railroad bridge, and the vessel's headway carried her under the bridge until the wheelhouse proper hit the lift span.



These two photographs graphically demonstrate the extensive damage suffered by the equipment and structural members on the Yorkmar's bow. The vessel remains in laid-up status.

September 1973

The chief mate and the bosun watched the span pass over their heads at least three times as the vessel was maneuvered back and forth. Eventually they noticed that the lookout was not with them, and they returned to the bow seeking him. They found him lying on the starboard side of the forecastle deck apparently crushed to death.

From the time the Yorkmar entered the canal until the collision, the pilot, the master, the third mate as mate on watch, the helmsman, and the second mate as observer were present on the ship's bridge. Various



This view of the bow of the SS Yorkmar shows the extent of the damage incurred when the vessel struck the bridge. Plainly visible is the forecastle head under which the chief mate and the bosun sought shelter from harm. The bow lookout, not having such shelter, was crushed to death.

speeds were used during the transit, and the vessel was benefiting from a 2 to 3 knot following current. Later calculations showed that the vesseaveraged 12.0 knots over ground for the last 2.6 nautical miles before the collision. The pilot stated that for signals were being sounded abour once a minute in accordance with the Inland Rules of the Road. The helmsman, however, remembered the fog signal having been sounded only 2 or 3 times during the 50 minutes prior to the collision.

The third mate received the chief mate's report of the toot heard from the bow shortly before the collision. and he relayed the information to the pilot. The pilot immediately ordered speed reduced to half ahead-40 revolutions per minute-and sounded a one-blast fog signal. The railroad bridge was clearly visible on the radar screen, but since it is a lift bridge, it was impossible to tell if the span was up or down. The pilot assumed it was up. It was only seconds later that he and the others saw the center span loom out of the fog and knew that this assumption was dead wrong. The telephone from the bow rang. The third mate did not answer, as he was engaged in ringing up full astern which had been ordered by the pilot at the same instant. As the bow struck the railroad bridge, the pilot gave the order to abandon the ship's bridge-The men from the wheelhouse plus the radio operator ran below, and got as far as the boat deck before the lift span of the railroad bridge hit the wheelhouse proper. The Yorkmar began to back away. Seeing this, the second mate rushed down to the engineroom and told the engineer on watch to stop the engines. The second mate then returned to the wheelhouse, and maneuvered the ship to keep it from grounding. Eventually the pilot returned and, after several unsuccessful attempts to back the Yorkmar from under the bridge, he deliberately grounded the ship's stern on the south bank to prevent any further movement or damage.

After the collision and an initial inspection of the ship's watertight integrity, the Yorkmar's crew began shifting ballast forward to lower the bow. They also cut away debris on the forecastle head and cut free the ship's anchors and chains which had let go on impact. With the assistance of tugs and after flooding the No. 1 hold with about 5 feet of water to further lower the bow, the Yorkmar was backed free of the railroad bridge at 5:04 p.m. She was turned around in the canal and proceeded easterly to the Delaware Bay. She made the remainder of the trip to Baltimore via the Atlantic Ocean unescorted and without incident.

The canal dispatcher whose watch ran from midnight to 8 a.m. on the day of the collision had worked for the U.S. Army Corps of Engineers for 26 years. In accordance with custom this dispatcher went on duty some 45 minutes early and was relieved 45 minutes early that morning. It was he who called each vessel anchored at the eastern entrance to the canal and informed them that the canal was open. He saw the first two vessels pass Reedy Point (the beginning point of the controlled portion of the canal when transitted in a westerly direction) on the television monitor. He also received radio-telephone calls from these vessels informing him of their positions as they passed Reedy Point. Such calls are customary, but not required especially under conditions of reduced visibility, even though the vessels have already been granted the required clearance to enter the canal. Shortly after receiving these calls, the dispatcher was relieved.

The new dispatcher did not see, on the television monitor, the third vessel pass Reedy Point. He did, however, receive this vessel's radio-telephone notification of its position as it passed Reedy Point. The Yorkmar, the fourth ship to enter the canal, had weighed anchor at 7:42 a.m. and passed the still green traffic control light at Reedy Point at about 8 a.m. The dispatcher then on duty did not see her enter the canal; and the *Yorkmar*, because of her communications difficulties, did not make the customary radio-telephone call to the dispatcher. At 8 a.m. the dispatcher closed the canal because of fog.

The first dispatcher testified that he told his relief that five ships were cleared and waiting to enter the canal, four were close, and the Yorkmar would be the last of the five to enter. The second dispatcher, on the other hand, testified that the man he relieved had indicated that three vessels, not four, were entering the canal, and that the Yorkmar was one of two ships still at anchor.

The Penn Central Transportation Company vertical lift bridge has a horizontal clearance of 522 feet and a vertical clearance at lower mean high water of 45 feet when closed and 133 feet when in the open, or up, position. The bridge is operated in accordance with regulations promulgated by the U.S. Coast Guard, Title 33, Code of Federal Regulations, Parts 68 and 117.235(a). The bridge was properly lighted at the time of the collision. It takes about 7 minutes to raise or lower the bridge.

A bridge tender operates the bridge from the control station located on the south shore of the canal and to the east of the railroad tracks. He can transmit and receive messages on both channel 18A and channel 13, the bridge-to-bridge radiotelephone frequency. Like the canal dispatchers, he also has commercial telephone capability. The bridge tender on duty at the time of the collision came on duty at 7 a.m. The canal dispatcher had informed him that three ships were in the canal. In addition, he had overheard the conversations between the ships and the dispatchers on channel 13. The first ship in the canal called him and asked if the span was up. He responded that it was and told the ship, "come right on." This vessel passed through at 7:27 a.m. The bridge tender also had a conversation with the third vessel before it passed under the railroad bridge at 8:18 a.m. The fog had grown so

dense, however, that the bridge tender could not see this vessel as she passed even though his station is only some 500 feet from the centerline of the canal. The bridge tender then called the dispatcher who had come on duty at 7:15 a.m. and asked if it were clear to lower the bridge. The dispatcher said yes, that there were three vessels in the canal and if the third had passed, it was safe to lower it. The first dispatcher had not told the bridge tender either the number of ships at anchor waiting to enter the canal or that the Yorkmar could not transmit on channel 13. In fact, the bridge tender was totally unaware of the Yorkmar's presence. He lowered the center span of the bridge and locked it in the down position at 8:25 a.m. The train ID-27 passed over the bridge southbound; it cleared the bridge at 8:47 a.m. Just 60 seconds or so later, the Yorkmar crashed into the span.

Both the Yorkmar and the railroad bridge were severely damaged as a result of the collision. The Yorkmar is presently in laid-up status in Baltimore. The damage to the bridge caused substantial curtailment of rail service to the northern areas of the Delmarva Peninsula with resulting severe economic hardship and unemployment. The collision also caused the death of the how lookout due to crushing injuries to the chest and abdomen. Since there was no debris in the vicinity of the lookout's body it was theorized that he had been struck by one of the Yorkmar's cradled booms. The boom itself was caused to move violently in the horizontal direction when the No. 1 kingpost was destroyed in the collision. This caused the movement of a guy wire attached to the kingpost which in turn caused a rapid horizontal movement of its associated boom. The bosun, who slightly injured his heels was the only other person hurt in the casualty.

The Commandant of the Coast Guard in his action on the report of the one-man formal investigation stated that the primary cause of the

The Ship

The SS Yorkmar is a converted C-4. It was rebuilt in 1965, with the deckhouse being located aft. It had two operating Clyde Whirley cargo handling cranes on the main deck, one between No. 1 and No. 2 hold, and one between No. 3 and No. 4 hold. The vessel carries and handles steel products and lumber. While transiting the canal, the engineering plant was being operated under what is known as "manoeuvering" conditions. Accordingly, full speed is set at 60 r.p.m.; half speed is 40 r.p.m.; slow speed is 20 r.p.m.; and dead slow speed is 10 r.p.m. In unrestricted areas, full speed is 83 r.p.m., which is good for approximately 171/2 knots. The bow lookout station is located in the extreme forward part of the vessel on the forecastle head at the stem. A platform has been erected so that the lookout may see over the bulwarks and consequently have an unrestricted view ahead and to the side. A telephone is at the station for communication with the pilot house. On the morning of the collision, pertinent navigational equipment, as well as the engineering plant, was operating normally. Engine orders from the wheel house were answered promptly and correctly. The Yorkmar was properly Coast Guard inspected. She was controlled by a licensed master and a licensed pilot. The pilot had extensive experience and had transited the Chesapeake and Delaware Canal nearly 1,000 times. He had never before unexpectedly encountered the bridge down.

The Canal

The Chesapeake and Delaware Canal is a sea level waterway, operated by the Philadelphia District of the U.S. Army Corps of Engineers, and connects the Delaware and Chesapeake Bays. The dredged waterway extends from Reedy Point, Delaware, on the Delaware Bay, to deep water on the Upper Chesapeake Bay, near Pooles Island, Maryland, for a total distance of 46 miles. The controlled portion of the waterway extends from Reedy Point, Delaware, to Town Point, Maryland, a total distance of 19.1 miles. The waterway provides a dredged channel which is 35 feet deep and at least (across the bottom of the canal) 450 feet wide. A section of the canal beginning 220 yards west of the Reedy Point Bridge, and extending to the entrance at Reedy Point itself, is only 250 feet wide. Title 33 of the Code of Federal Regulations, Section 207, promulgated by the U.S. Army Corps of Engineers, provides navigational regulations for the canal. The canal dispatcher, a Civil Service employee of the U.S. Army Corps of Engineers, is physically located at the Dispatcher Station at Chesapeake City, Maryland. U.S. Army Corps of Engineers regulations state that a clearance by the dispatcher for a vessel's passage through the waterway does not relieve the owner, agent, or operator of the vessel for full responsibilities for a safe passage. Vessels are required to travel at all times at a safe speed through the canal, so as to avoid damage or injury to persons. There is no specific speed limit set in knots. The following is taken in part from the rules and regulations promulgated by the Philadelphia District, U.S. Army Corps of Engineers, as issued in their Notice to Mariners dated December 22, 1972, and which became effective January 1, 1973:

The traffic through the canal is monitored by the dispatcher.

Vessel identification and monitoring is performed by television cameras located at Reedy Point and Town Point Wharf, which are remotely controlled by the dispatcher at Chesapeake City. Vessels, tug and tows, or any combination thereof, are required to have radio-telephone equipment as specified by the Vessel Bridge to Bridge Radio Telephone Act (Public Law 92-63), as applicable. These vessels will not enter the canal until radio communication is established with the dispatcher at Chesapeake City, and clearance is received. Radio communication shall be established on 156.65 mHz (channel 13). The dispatcher at Chesapeake City will monitor 156.8 mHz (channel 16) for the purpose of responding to transmissions of emergency nature. All communication with the dispatcher on these frequencies shall be confined to that necessary to transit the Chesapeake and Delaware Canal.

Traffic lights located at Reedy Point and Town Point are equipped with flashing green, amber, and red lights. The lights are defined as follows:

- (a) Green Light-Waterway open to navigation.
- (b) Amber Light—Caution. Traffic restricted to vessels, tug and tows, or any combination thereof, from less than 375 feet in overall length.
- (c) Red Light-Waterway closed to traffic. All vessels must stop.

In addition to the communication facilities described above, the canal dispatcher has communication capability of VHF channel 18A (156.900 mHz) and on a VHF government canal working frequency. Use of this government canal working frequency is restricted to communications involving U.S. Army Corps of Engineer vehicles, equipment, and the canal dispatcher. However, the bridge tender on the Penn Central railroad bridge over the canal can also transmit and receive on this frequency, as well as channel 13. The canal dispatcher and the bridge tender both also have commercial telephone capability. Towers at either end of the canal support the traffic control lights, as well as two each remotely controlled television cameras. The canal dispatcher can change the traffic lights from his operating console. In addition, the television cameras can be trained, pointed, and zoomed in and out from this same console.

The Bridge

The Penn Central Railroad Company has issued a Manual of Instruction for the use and guidance of bridge tenders. It was said that bridge tenders read these instructions "every once in a while." The relationship between the bridge tenders and the canal dispatchers is loose and informal. Liaison, however, is not complete since the bridge tender often raises or lowers the bridge without notifying the canal dispatcher. This has been the long standing practice. Consequently, oftentimes the canal dispatchers do not know whether the lift span over the canal is up or down, as this is considered to be a matter between the railroad and the approaching vessels. Neither the bridge tenders nor the canal dispatchers ever make a blind radio transmission informing navigational traffic in the area that the bridge is about to be raised, or is about to be lowered. Bridge tenders monitor channel 13, and consequently usually have a pretty good idea of the traffic in the canal. Under conditions of reduced visibility, most ships call the bridge tender on the radio to determine the position of the lift span. Dispatchers usually call the bridge tender on the government canal working frequency and inform them when vessels have entered the canal. Trains cross the bridge on a random basis, and the canal dispatchers do not know in advance when this will happen. Some trains are as long as 75 to 80 cars.

collision was the improper navigation of the SS Yorkmar in that:

- a. The vessel was proceeding at an immoderate speed consistent with existing weather conditions and while approaching a drawbridge.
- b. The vessel failed to determine the position of the bridge span and failed to blow the appropriate whistle signal for opening the bridge [Title 33, Code of Federal Regulations, Section 117.235(a)].

Further, the Gommandant found that the "casualty could have been prevented had the canal dispatcher on

duty at the time of the collision been aware of the SS Yorkmar in the canal, and had alerting information advising of the necessity for closing the bridge been transmitted to the vessel."

But, he determined, there is no causal relationship between the Corps traffic in the canal and the failure of the *Yorkmar* to sound the prescribed of Engineers' management of the drawbridge opening request signal.

The investigating officer recommended that the Corps of Engineers review their personnel qualifications requirements for dispatchers at the Chesapeake and Delaware Canal, and that a Manual of Instruction detailing the exact duties, method of watch standing and relief of watch

procedures be issued by the Corps. Futrher, he recommended a change in the Rules and Regulations for the Chesapeake and Delaware Canal so that vessels would be required to announce, via radio, their arrival at either entrance to the canal under all conditions of visibility. He also urged that pilots or masters of transiting vessels be required to communicate on channel 13 with the bridge tender to positively establish the position of the center left span. These recommendations were forwarded to the Corps of Engineers for its consideration.

Suspension and Revocation Proceedings were instituted against the licenses of both the pilot and the master of the *Yorkmar*.

New Health Procedures Speed Turnaround Time

A mid-year action by the Public Health Service to reduce "red tape" affecting ship traffic at U.S. ports has been applauded by the maritime industry.

Commencing July 1, vessels arriving at American harbors are no longer required to secure "radio pratique" advance clearance from health inspection, according to Joseph F. Giordano, Quarantine Branch Chief in Atlanta. Only ships with illness aboard, on which a death has occurred, or which have recently been in a smallpox infected country or plague area, will be boarded for medical clearance, he said.

The latest action also eliminates for virtually all ships the need to complete and submit a maritime public health declaration—reducing still further the "sea of red tape" that prompted concerted industry action in the late 1950's to seek relief from excessive documentation.

Formerly, all ships arriving from foreign ports had to await official inspection. Until the Public Health "Q" flag was lowered, vessels could not commence unloading cargo or other activities. Crews and passengers waited on board, often in anchorages away from docks. Additional expenses, added to lost time, resulted such as extra pilotage.

Improvements came when 24-hour quarantine service formally became available in 1957. Another breakthrough—prompted by industry pressures from San Francisco—allowed dockside inspection, eliminating in most instances quarantine inspection at anchor.

Finally, through the aegis of the American Institute of Merchant Shipping and the San Francisco Marine Exchange, Public Health Service officials in Atlanta offered first U.S. use of "radio pratique" in 1969. This allowed ship masters, while still a day or more from port, to radio request for non-inspectional clearance—by declaring their vessel free from illness, and without recent call at a known smallpox or plague area.

About 2 percent of arriving ships will still be inspected—even if otherwise "clean"—as a quality control measure. But with its latest action, USPHS estimates that in coming fiscal year, compared to 1968, inspection boardings will be reduced by 97 percent and overtime charges against the vessel cut by 90 percent.

John Greene, chairnan of the Marine Exchange task force in San Francisco which spearheaded much of the easing of regulations, praised the Federal authorities for their latest action. "It is further evidence of growing awareness of—and response to—the costs that unnecessary procedures and 'red tape' impose on our international commerce."

Green emphasized, however, that industry cooperation is essential to realize the benefits afforded by the latest Government action. "We must all continue to cooperate fully with the Public Health Service, to assure complete compliance with these newest, relaxed regulations. The system shifts major responsibility from the inspectional agency to ship masters, operators and agents. If we get careless, or slipups occur, compulsory quarantine boardings will be back with us."

maritime sidelights

New Information on Publications

Chemical Data Guide

The Chemical Engineering Branch of Coast Guard Headquarters has distributed a new revision of CG-388, "Chemical Data Guide for Bulk Shipment by Water."

The "Data Guide" is a convenient reference for the physical and chemical properties of bulk liquid cargoes and recommended spill or leak procedures.

Increasingly, more and various unconventional liquid cargoes are being transported by water. Many of these commodities have unusual fire and explosion properties, pose significant health hazards, and/or react dangerously by themselves, with other chemicals, or water. The "Data Guide" provides a compilation of all available knowledge on these topics and describes procedures and necessary information to be used in the event of a chemical accident on the waterways.

Each chemical is assigned to a compatibility group and a compatibility chart is included for quick reference.

The "Data Guide" is now in its fourth edition and is continuously updated as new and additional information becomes available. The 1973 edition may be ordered from:

Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402

When ordering, include the stock

number (5012-0068) and enclose \$2.10 per copy.

Users of this guide are invited to submit comments or suggestions to the Commandant (G-MHM), U.S. Coast Guard, Washington, D.C. 20590.

IMCO Publications

There is increased interest in the purchase of Intergovernmental Maritime Consultative Organization (IMCO) publications. There are now two locations in the United States from which such publications may be ordered:

> New York Nautical Instrument and Service Corp. 140 West Broadway New York, N.Y. 10013 Tel. 944–9191/2/3

and

Southwest Instrument Co. 235 West 7th St. San Pedro, CA 90731

Orders for IMCO publications may still be placed with IMCO headquarters:

> 101–104 Picadilly London W1V OAE England

Distance Between U.S. Ports

Do you know how far it is from Boston, Mass., to Anchorage, Alaska? By air, it's approximately 2,925 nautical miles. By ship, via the Panama Canal, the distance is 7,312 miles.

A new edition of the publication "Distances Between United States Ports" tells the nautical distances between 700 U.S. ports, and much more.

For example, how long would it

take to go by ship from Boston to Anchorage? The publication includes a table which enables you to estimate the time it takes to travel so many nautical miles at varying speeds. Thus, a 7,321-mile trip would take 38 days and 2 hours at 8 knots, but only 15 days and 6 hours at 20 knots. And for landlubbers, there's another table which converts nautical into statute miles.

The publication is issued by the National Ocean Survey, an agency of the National Oceanic and Atmospheric Administration in the U.S. Department of Commerce. It includes distances for the Great Lakes, compiled by the National Ocean Survey's Lake Survey Center, and for the Mississippi River system, compiled from Army Corps of Engineers data. A chart showing junction points and references to the tables is also provided to facilitate use of the publication.

Changes from previous editions are the recomputation of distances between ports on the Atlantic and Pacific coasts in accord with established Traffic Separation Schemes, and between ports on the Gulf of Mexico in accord with established shipping safety fairways. Worldwide distances between ports can be estimated by using the publication in conjunction with H.O. Publication 151, a Defense Mapping Agency Hydrographic Center publication of foreign port distances.

The publication may be purchased for 60 cents from the National Ocean Survey (C44), Riverdale, Md. 20840, or from its sales agents at most U.S. seaports.

Intergovernmental Maritime Consultative Organization's Subcommittee on the Carriage of Dangerous Goods

During the week of May 14-18, 1973, the Intergovernmental Maritime Consultative Organization (IMCO) Subcommittee on the Carriage of Dangerous Goods held its 22d meeting. The subcommittee is responsible for developing recommendations for the safe carriage by sea of packaged dangerous goods, including portable tanks and roll on/ roll off equipment. It is also responsible for the development of recommendations for the carriage of solid hazardous materials carried in bulk within the vessel's hold, although to date this problem has not been actively addressed by the subcommittee.

The Subcommittee on the Carriage of Dangerous Goods has been very active since its inception in 1962. One of its major successes has been the development of the IMCO Dangerous Goods Code. This Code is published in three volumes (in the past it was issued in 10 volumes) and is available through IMCO in London. As a tribute to its popularity this Code has been adopted in whole or in part into national regulations by 21 maritime nations, particularily the European countries. The United States is in the midst of developing regulations along the lines outlined in the IMCO Code. It is quite possible that these regulations may be published as a Notice of Proposed Rulemaking by the time this article is printed.

The Code covers the safe procedure to be used when handling packaged dangerous goods. A large number of chemicals considered dangerous are described on individual pages with the recommended packages to be used, including gross or net weight limitations. Also included is the recommended stowage aboard cargo and passenger vessels and precautions to be followed for stowage with other cargo which if not followed could lead to undesirable consequences as a result of commingling of the contents in the event of an A recent addition to this Code is a recommended standard for the construction of portable tanks with a design pressure exceeding 25 psig. A future addition will cover the design requirements for portable tanks in the region 14.2 psig to 25 psig along with a list of liquids permitted to be carried. The specifications for portable tanks having a design of 14.2 psig to 24 psig were developed principally at the insistence of the U.S. Government in order to handle less dangerous materials such as flammable liquids having a high flashpoint.

The subcommittee still has under active consideration further expansion of the Code as it relates to portable tanks. At the 22d session held on May 14–18 the recommended design requirements for compressed gas tanks and a portable tank with no relief valves was considered. (The results of this meeting were not available at this writing.)

In addition to the development of the three volume Code and design requirements for portable tanks the subcommittee has also finalized action on the following major items:

a. Medical first aid recommendations involving dangerous goods;

b. furnigation of cargo holds on ships; and

c. carriage of dangerous goods aboard roll-on/roll-off vessels. A copy of these recommendations can

be obtained by writing to IMCO, 101 Picadilly St., London, England.

The subcommittee continues to devote considerable time and discussion on such diverse subjects as the following:

a. carriage of dangerous goods aboard containerships; c. preparation for the upcoming Conference on Marine Pollution;

d. carriage of dangerous goods in limited quantities;

e. grouping of dangerous goods within classes by their properties;

f. emergency data cards for use aboard ships; and

g. changes to the IMCO Code on the Carriage of Dangerous Goods as they are proposed by the participating countries. The May 14-18 meeting was devoted to these ongoing subjects.

The U.S. Government has been very active in discussions held within this subcommittee. To assist the United States in preparing for these meetings there is in existence a SOLAS Working Group on the Carriage of Dangerous Goods. Participation in this working group includes Government members, representatives from industry, the National Cargo Bureau and the Bureau of Explosives. The representatives from industry are primarily from the marine segment but some participation from shippers is also present. This working group meets as frequently as is necessary, but at least once prior to every session of the IMCO subcommittee, to develop U.S. papers to be presented at IMCO or to discuss papers which have been presented by other participating countries.

In the past the various countries who have participated in the work of this IMCO subcommittee have been: Australia, Canada, Chile, Denmark, Federal Republic of Germany, Finland, France, Greece, Italy, Japan, Liberia, Netherlands, Norway, Peru, Poland, Spain, Sweden, USSR, and United Kingdom.

If there are any questions concerning this subcommittee or its work, they can be addressed to: Commandant (G-MHM/83), U.S. Coast Guard, Washington, D.C. 20590.

NEW SURVIVAL SYSTEMS TO BE EVALUATED

The Coast Guard's Offices of Merchant Marine Safety and of Research and Development will be testing and evaluating some new concepts in survival equipment for merchant ships during the next year.

This program is only a small part of the more complicated overview which the Coast Guard is trying to get of ship abandonment and the equipment necessary for such an emergency.

Contracts with the Battelle Memorial Institute are generating functional requirements for survival at sea. Items such as vessel type, casualty by type, location of casualty, use of survival equipment and sea and weather conditions at time of casualty become major data inputs in determining these functional requirements.

The survival systems being evaluated during the next year are presently installed or will be installed on Great Lakes vessels. One system presently installed on the U.S. Ore Carrier Vessel *Voorhees* is an inflatable slide-raft combination. This concept was initially designed for aircraft use and more recently adopted for use on off-shore platforms. The testing of this system on the *Voorhees* will give the Coast Guard experience in the operation of a slide from a ship. This experience is important to acquire since neither an airplane on water nor an off-shore platform moves as much as a foundering ship in heavy seas.

A second system which has already been installed on a Great Lakes vessel is a davit launched inflatable life raft. This design concept is prominent in England although the raft was supplied by an American company.

A third system which is not yet installed is a davit launched, completely enclosed capsule. This capsule is presently being used on off-shore platforms using an "Aframe" launching system. The Coast Guard hopes to utilize a newly developed telescopic davit which would be more feasible for shipboard installation. The plans are to conduct five basic test activities:

- 1. Pre-operational tests and observations
- 2. Dockside or functional system check-out
- 3. Cold weather tests
- 4. Severe weather tests-unmanned
- 5. Severe weather tests-manned

Wherever necessary, modifications will be made to test procedures to avoid delaying the ship or its personnel and to reduce the safety hazards which may arise from environmental conditions. The Coast Guard will also conducting similar tests on existing davit launched boats in order to get comparative data. The results of the testing and evaluation will be put into a final report aff all tests are completed. It is anticipated that the tests u be completed in April 1974.



COAST GUARD RULEMAKING

(Status as of 1 August 1973)

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
1972 PUBLIC HEARING							
Tailshaft inspection and drawing (67–71, 4–71). Definition of international voyage (12–70). Portable foam firefighting equipment—tank vessels (17–	3–1–72 3 – 1–72	3–27–72 3–27–72	43-72 43-72	××		· · · · · · · · · · · · · · · · · · ·	
	3-1-72	3-27-72	4-3-72	×			
Casco Bay, Maine. Henderson Harbor, N.Y. S. John's River, Fla. (CGFR 71–162). San Juan Harbor, P.R. (CGFR 72–12). "Illington River, Ga. (CGFR 71–153). Ean Dicgo Harbor (CGD 72–228). Eampton Roads, VA (CGD 72–232). "an De Fuca, Wash. (CGD 72–233). hester River, Md. (CGD 73–10). filwaukce Harbor, WI (CGD 73–48). Parbers Point, Oahu, HI (CGD 73–59). Sodus Bay, NY (CGD 73–84). Dister Harbor, MD (CGD 73–125). Oyster Bay, NY (CGD 73–126). Potts Harbor, ME (CGD 73–124).	$\begin{array}{c} 6-16-72\\ 6-28-72\\ 12-22-71\\ 2-1-72\\ 11-25-71\\ 12-5-72\\ 12-5-72\\ 12-5-72\\ 1-19-73\\ 3-19-73\\ 3-30-73\\ 3-27-73\\ 6-19-73\\ 6-19-73\\ 6-19-73\\ \end{array}$		$\begin{array}{c} 7-19-72\\ 8-1-72\\ 1-31-72\\ 3-4-72\\ 12-27-71\\ 1-9-73\\ 1-9-73\\ 2-27-73\\ 4-16-73\\ 4-20-73\\ 5-29-73\\ 7-20-73\\ 7-20-73\\ 7-20-73\\ 7-20-73\\ \end{array}$	XXXXXX XXXXXXX		7–10–73	8-10-73
Second Flotation Devices (CGD 72–172, 120, 163)	10-6-72	11-20-72				3-28-73	10-1-73
ersonal Flotation Devices, supplementary (CGD 72- 120). ermination of unique vessels (CGD 73-40). Hazardous bar areas (CGD 73-41).	1-5-73 3-14-73 3-14-73	5-8-73 4-17 & 19-73	1-30-73 5-14-73 5-1-73	××		3–28–73	10–1–73
BRIDGE REGULATIONS				1			
Pear Creek, Md. (CGFR 72–17) hattahoochee River (CGFR 71–166)	2-2-72 12-29-71	1-26-72 Florida	3-7-72 1-27-72	×		•••••	
Lewiston, Idaho (CGFR 71-169) Interstate I-90 at Lake Washington (CGFR 71-168)	12–29–71 12–21–71	2-1-72 1-27-72 Wash-	2-1-72 1-27-72	××			
Laritan R., N.J. (CGD 72-219). Jansemond R., Va. (CGD 72-244). hn Day R., Blind Slough, Clatskanie R., Oregon	11-8-72 11-11-72	12–14–72	12-29-72 12-15-72	×××		•••••	
CGD 72-231). Ianticoke, Del. (CGFR 71-142). Ogden Slip, Chicago, III. (CGFR 72-16). Scramento River, Cal. (CGFR 71-165). Inion Pacific RR Co., Columbia River (CGFR 71-167).	11-28-72 11-24-71 2-2-72 12-29-71 12-29-71	2–23–72 Wash-	12-24-71 12-24-71 3-7-72 2-7-72 1-27-72	<xxxx< td=""><td></td><td></td><td>•••••</td></xxxx<>			•••••
Chio River at Huntington. Drega River, Fla. Dear Creek, Tex. (CGD 72–165P). Decagoula R. MS (CGD 73–140).	6-10-72 6-21-72 8-26-72	7–13–72	7-27-72 7-25-72 10-3-72	×××		7-12-73	10-8-73 through
Coper R. SC (CGD 73-139) Acramento R. et. al. CA (CGD 73-142)	7-12-73		8-14-73 8-21-73				I-4-74

September 1973

Coast Guard Rulemaking—Continued

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
Pompano Beach, Fla. (CGD 72–158P). St. Lucie River, Fla. (CGD 72–158P). West Palm Beach, Fla. (CGD 72–167P). Back Bay of Biloxi, Miss. (CG 72–173R).	8-22-72 8-26-72 8-26-72		9–26–72 10–3–72 10–3–72	×××		9–7–72 Extended	10-2- throat
Great Canal, Satellite Beach, Brevard County, Fla. (CGD 72-175PH). AIWW, Mile 342, Fla.; Drawbridge Operations (CGD 72-190P).	9–13–72 9–30–72	10-30-72	11–13–72 11–1–72	××		4-2-73	10-19-
Barnegat Bay, N.J. (CGD 72-211). Ewing Narrows, Harpswell, Mc. (CGD 72-205) Richardson Bay, Ca. (CGD 72-30)	10-31-72 10-17-72	11-21-72	12 -5-7 2 12-6-72	×.	•••••	12-2-72	2-1-1
Doctors Pass, Naples, Fla. (CGD 72-242) Menominee River, WI (CGD 73-12) Spa Creek, MD (CGD 73-13) Long Island Inland Waterway (CGD 73-23) Shaws Cove, CT (CGD 73-72)	12-16-72 1-26-73 1-26-73 2-12-73 4-18-73 corrected 5-1-73	1–25–73	2-15-73 3-6-73 3-6-73 3-30-73 5-18-73	XXXXX			
Columbia and Snake R's, WA (CGD 73-95) Whitcomb Bayou, FL (CGD 73-51) Coos Bay, OR (CGD 73-108)	5-8-73 3-14-73		6–8–73 4–17–73	××		5-23-73	10-1-7 thread
Isthmus Slough, OR (CGD 73-104)			• • • • • • • • • • • •			5-23-73	10-2- 7-25- threat
Scuppernong R., NC (CGD 73-111) Passaic R., NJ (CGD 73-123)	5–29–73	••••••	7–3–73	×	·····	6–18–73	8-50+ there
HAZARDOUS MATERIALS							11-9-
Compressed Gas Gylinders (CGD 72-115PH) Dichlorobutene, Corrected, F.R. 9-20-72, Hazardous	8-31-72	9-28-72	10-2-72	×	•••••	• • • • • • • • • • • •	
Cardioes (CGD 72-102PH). Certification of Cargo Containers for Transport under Customs Seal (CGD 72-139).	8-30-72	10-24-72	10-31-72	X	•••••		
Metal Borings, Shavings, Turnings & Cuttings (CGD 72-229).	12-5-72	1-11-73	3-1-73			7-16-73	10-05
226) Shipment of DOD material sold to shipper (CGD 73-42) Miscellaneous Dangerous Cargoes (CGD 72-182) Letters of compliance, Subchapter 0, Bulk Dangerous	12–13–72 3–22–73 11–11–72	1–23–73 4–17–73 12–12–72	1-30-73 4-24-73 12-19-72	 ×	· · · · · · · · · · · · · · · · · · ·	3-29-73 7-9-73	6-31- 10
Cargoes, Interim regulations (CGD 72–80) Miscellaneous Amendments (CGD 72–34)	3-1-72	5-24-72	••••••		· · · · · · · · · · · · · · ·	6-15-73 7-27-73	6-15-7° 10-1 -
MARINE ENVIRONMENT AND SYSTEMS (GENERAL)		0	-				
Oil pollution prevention (CGFR 71-160, 161) Marine Sanitation Devices (CGD 73-83)	12-24-71 Adv. Notice	2-15-72	4-21-72	×	•••••	12-21-72	7-2-2
	6-18-73		8-15-73				

¹ Some requirements not effective until 1-1-74, see Federal Register Part III of 6-15-73.

Coast Guard Rulemaking—Continued

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
MERCHANT MARINE SAFETY (GENERAL)				Ī			
Oceanographic vessels, fire main systems (CGFR 72-20) Washroom and toilet facilities (CGD 73-119) Water lights, floating electric (CGFR 72-48) Great Lakes Maritime Academy, List as a Nautical	2-4-72 1-15-72 3-9-72	4-18-72	3-19-72 3-20-72 4-24-72	×	•••••	8-1-73	8–1–73
School-Ship (CGD 72-92P) Ship's Mancuvering Characteristics Data (CGD 72-	8-9-72		9-15-72	×			
134PH)	8-22-72 Supp.	9-28-72	10-13-72	×		•••••	
Unmanned Barges; hull construction (CGD 72-130) Marine Engineering Systems and Components (CGD	7-20-73 10-31-72	12-19-72	8-31-73 12-29-72	 ×	· · · · · · · · · · · · ·		
Remote Valve Controls (CGD 72-57) Towboat operator licensing (CGD 72-132)	11–17–72 11–17–72 8–11–72	12-12-72 9-13, 20, 26, & 27-	12–20–72 12–19–72 1–15–73	•••• ••••	••••••	6-29-73 5-1-73 3-2-73	10–1–73 8–1–73 9–1–73
Construction requirements for tank ships (CGD 72-245).	Adv. Notice 1-26-73 Supp. Notice	72	3–15–73	×			
Wiring methods and materials for hazardous locations	7-5-73		••••••		· · · · · · · · · · · · ·	• • • • • • • • • • •	
Emergency Position Indicating Radio Beacons (CGD	2-14-73	• • • • • • • • • • • • •	3-16-73	×.	******		
Firemen's outfits on manned tank barges (CGD 73-11).	3-5-73 4-26-73	4–18–73 On	4-30-73 5-28-73	×			
Dry chemical fire extinguisher requirements (CGD 73-73)	6-8-73		7-10-73	×.	·····		

Note: This table which will be continued in future issues of the Proceedings is designed to provide the maritime public with better information on the status of changes to the Code of Federal Regulations made under authority granted the Coast Guard. Only those proposals which have appeared in the Federal Register as Notices of Proposed Rulemaking, and as rules will be recorded. Proposed changes which have not been placed formally before the public will not be included.

Among the major causes of death in the recreational boating community are falls overboard; in fact, only capsizings are responsible for more fatalities. Principal reasons for most trips over the side are improper loading of the boat and excessive speed.

A very typical case involving the "fall overboard" occurred recently on Lake Meade. Two men were operating a homemade 10-foot craft powered by a 25-horsepower motor. Contrary to commonsense and proper

Falls Overboard

seamanship, both men were sitting on the starboard side when the boat struck something. Was it a floating log, or merely the wake from another boat? No matter. The two men were thrown into the water about 40 yards from shore as their boat continued to run in tight circles. Both men, fully clothed and wearing boots, started to swim toward shore. One man removed his boots and made it back; the other man was pulled under by the weight of his garments; he drowned.

The boat was eventually towed to shore after it had run out of gas. Some 15 divers began to search for the drowning victim, but for 3 days they were unable to locate the body in the area of the accident where the water was 40 feet deep.

Coast Guard investigators, after careful examination of the incident, concluded that the boat had been improperly loaded, had been traveling at too fast a speed, and had lacked a proper lookout ahead for objects in the water.

MODERNIZATION OF THE INTERNATIONAL RULES OF THE ROAD

By Capt. W. W. Barrow and Cdr. J. M. Duke, USCG

ED. NOTE: This is the first of a series of installments on the modernization of the International Rules of the Road. The article will be continued in subsequent issues of the Proceedings. The views expressed are those of the authors and do not necessarily reflect those of the Commandant or of the Coast Guard as a whole.

Introduction

International Rules of the Road as we know them today came into acceptance in 1895. They remained virtually unchanged until a facelifting was accomplished by the Safety Of Life At Sea Conference in 1948. Again in 1960 a new Safety Of Life At Sea Conference opened the Rules and amended them. It was during this conference that radar was formally recognized by the Rules.

Now in 1972, the Rules have been again reopened and significant modifications effected. This time not by a Safety Of Life At Sea Conference but by a special conference called for the specific purpose of amending the International Rules of the Road. If the coincidence of a 12-year span between amendments has not escaped you, it should. There is nothing coincidential about the major maritime changes which have rendered an updating of the Rules so necessary. Oil spills of the magnitude of the Torrey Canyon have forcefully demonstrated the need for environmental protection which was not even seriously considered in 1960. Now we are dealing with vessels five times that size and the probability that even larger vessels will emerge. Additionally, a so-called container revolution will breed a large number of very high speed vessels. For these young titans the maritime community's present 15knot world will make a quantum jump to 30 knots. Hydrofoils, hovercraft, and extremely sophisticated tug-barges are other examples of newcomers that have not been accommodated for in the Rules.

Unfortunately, transportation demands and the resulting traffic patterns are such that large numbers of these various types of vessels can be expected in straits, on coastlines, in roadsteads and harbors simultaneously. Whereas the old Rules made some accommodations for different

types of vessels, they were, in the main, directed at two approaching vessels with approximately the same capabilities. The problem now, of course, is that approaching vessels are likely to have vastly different capabilities. Lurking ever so closely in the background is the potential for disaster which accompanies high speed and large amounts of dangerous cargo.

Member nations of the Intergovernmental Maritime Consultative Organization (IMCO) have done a great deal of work on the problem over the past 4 years. For instance, in the United States several committees from walks of the maritime community were formed under Coast Guard secretaryship and gave very freely of their time that the United States might put forth its best effort in modifying the International Rules. Once these committees had brought their work forward to the point of identifiable rule changes, a questionnaire was sent out m the maritime public for the broadest possible participation. Similar efforts were being carried out by other maritime nations. During this same 4-year period these nations met frequently in international working groups to the end that this 1972 conference might have placed before it 25 a working document the best attainable set of International Rules upon which general agreement had alreact been reached.

The obvious desire that these rules be simplified and aimed at the mariner, not the lawyer, was ever with these working groups both national and international. This sentiment, we believe, was best expressed by a Unite. Kingdom Minister for Maritime Affairs in a welcoming address to the 1972 Rules Conference. He stated in essence that the new regulations should be prepared in such a way as to provide the mariner with a practical code of practice for safely maneuvering his ship with relation others. To that end, the rules should be concise, comprehensive, and unambiguous.

In both 1948 and 1960 the Rules were kept in their original form with modifications being made to the individual rule or rules as the case may be. The current bit of surgery has gone a great deal beyond its predecessors. The rules have been added to, some rules have been deleted and the entire structure has been rearranged. While the overall result should be of significant benefit to the mariners both now and in the future, the job of comparing the existing 1960 set with this new set is a bit more difficult than in the past. It is a fair statement to say these new rules will be harder to memorize but easier to know and to use than the existing rules. In short, these rules are better tools for safer sailing.

In the following outline we will list each new rule or portion thereof and follow it with the authors' opinions of what the intent of the rule is, its relationship, if any, with the previous rules and, if appropriate, an indication of United States mariner acceptance based on the aforementioned questionnaire.

Section-by-Section Analysis

PART A-GENERAL

Comment: In order to put those rules and situations which have general applicability throughout all circumstances in one place, this section has been expanded to include provisions for special rules made by appropriate authority which were contained in old Rules 13 and 28. This part also gives recognition to implementation of traffic separation schemes, a new initiative in areas of congested traffic. Also placed in this part, under Rule 2 are the old rules of good seamanship and special circumstance. Rule 3 contains general definitions.

RULE 1

APPLICATION

(a) These Rules shall apply to all vessels upon the high seas and in all waters connected therewith navigable by seagoing vessels.

Comment: The mandate as to when lights and shapes are to be displayed has been removed to a special section of the rules dealing exclusively with lights.

(b) Nothing in these Rules shall interfere with the operation of special rules made by an appropriate authority for roadsteads, harbours, rivers, lakes or inland waterways connected with the high seas and navigable by seagoing vessels. Such special rules shall conform as closely as possible to these Rules.

(c) Nothing in these Rules shall interfere with the operation of any special rules made by the Government of any State with respect to additional station or signal lights or whistle signals for ships of war and vessels proceeding under convoy, or with respect to additional station or signal lights for fishing vessels engaged in fishing as a fleet. These additional station or signal lights or whistle signals shall, so

September 1973

ABOUT THE AUTHORS

Captain Winford W. Barrow assumed the duties of Chief, Operations Division, Fifth Coast Guard District, Portsmouth, Va. on July 31, 1972 with, at times, additional duties as Acting Chief of Staff.

Captain Barrow is a 1945 graduate of the Coast Guard Academy. Although his specialty field is Merchant Marine Safety, assignments in that field have been alternated with regular, seagoing assignments, both engineering and deck.

Following an initial assignment on a destroyer escort in World War II, Captain Barrow served four tours on Ocean Station Vessels, three of them on 327-foot cutters with duties ranging from Engineering Officer to Commanding Officer.

His shoreside assignments include a tour as Assistant Chief, Search and Rescue Section, 5th District, tours in three Marine Inspection Offices, and an assignment as Chief, Merchant Vessel Inspection Division, Coast Guard Headquarters. He was also U.S. Representative to the Safety of Navigation Committee of the Intergovernmental Maritime Consultative Organization.

Before assuming his present duties, Captain Barrow was Commander, Coast Guard Group, Baltimore.

Commander John M. Duke is presently the Chief, Merchant Marine Safety School at the Coast Guard Reserve Training Center, Yorktown, Va. He assumed those duties on July 5, 1971. Immediately prior to his present assignment, Commander Duke spent 4 years as Chief, Rules of the Road Branch at Coast Guard Headquarters where he worked with national and international groups on safety of navigation problems.

Commander Duke's other shoreside assignments include duties as Assistant Naval Engineer, Fifth Coast Guard District, and in the Marine Inspection Office, Calveston, Tex. where he was commended by the Maritime Administrator for work in the Nuclear Ship Savannah program.

Gommander Duke is a 1955 graduate of the Coast Guard Academy. He has served approximately 8 years aboard Coast Guard Cutters in all assignments including Engineering Officer and Executive Officer.

Both authors had a great deal of experience in the early preparations leading up to the new International Regulations for Preventing Collisions at Sea.

far as possible, be such that they cannot be mistaken for any light or signal authorized elsewhere under these Rules.

Comment: Old Rule 13 and 28D.

(d) Traffic separation schemes may be adopted by the Organization for the purpose of these Rules.

Comment: Traffic schemes are basically dual lane waterways developed for application on congested or otherwise dangerous areas of the world's waters. As envisioned here, the first schemes were approved in 1964 for the Dover Strait. Since then a great many others all over the world have been similarly approved. The implementation of these is generally accomplished by establishment of various navigational aids and display upon applicable charts by the major chart producing Nations. In this country such schemes exist at the approaches to New York, to Delaware, to the Chesapeake Bay, to Los Angeles/Long Beach, to Narragansett Bay, RI, and Buzzards Bay, MA, in the Santa Barbara Channel and at the approaches to San Francisco. Our good neighbors to the North have developed and implemented an extensive traffic separation scheme all the way from the Grand Banks to the Chetabucto Bay area and various areas of the Gulf of Saint Lawrence.

(e) Whenever the Government concerned shall have determined that a vessel of special construction or purpose cannot comply fully with the provisions of any of these Rules with respect to the number, position, range or arc of visibility of lights or shapes, as well as to the disposition and characteristics of sound-signalling appliances, without interfering with the special function of the vessel, such vessel shall comply with such other provisions in regard to the number, position, range or arc of visibility of lights or shapes, as well as to the disposition and characteristics of sound-signalling appliances, as her Government shall have determined to be the closest possible compliance with these Rules in respect to that vessel.

Comment: Old Rule 13B.

RULE 2

RESPONSIBILITY

(a) Nothing in these Rules shall exonerate any vessel, or the owner, master or crew thereof, from the consequences of any neglect to comply with these Rules or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

Comment: This, of course, is old Rule 29, the Rule of Good Seamanship. Conspicuous in its absence is mention of a proper lookout; however, this is not an oversight. The need for a proper lookout is given elevated status by devoting an entire rule to the subject and placing that rule immediately preceding the steering and sailing rules.

(b) In construing and complying with these Rules due regard shall be had to all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved, which may make a departure from these Rules necessary to avoid immediate danger.

Comment: This is the old Rule 27, Rule of Special Circumstances, a General Prudential Rule. Its location and wording ("may render a departure from the 'above' Rules * * *") in the existing rules causes some doubt as to whether the General Prudential Rule applies for instance to rules that came after it such as sound signals of vessels in sight of one another. With this amendment there can be no doubt that the General Prudential Rule as stated here applies to the entire body of the rules. The word craft has disappeared from this rule. This is indicative of better things to come. We can thank the drafting committee of the rules convention for such niceties as defining the word vessel properly and then confining themselves almost exclusively to that term throughout the remainder of the rules.

RULE 3

GENERAL DEFINITIONS

Comment: The definitions herein included are those which have general applicability throughout the rules. Specific definitions such as height above the hull, which has applicability only in placing the lights, or length of a whistle signal which, of course, has applicability only in the use of the whistle, are placed in the actual rule section to which they apply.

(a) The word "vessel" includes every description of water craft, including non-displacement craft and seaplanes, used or capable of being used as a means of transportation on water.

Comment: This rule has been modified to include nondisplacement craft and seaplanes. Since the rules generally provide that such craft/vessels are to stay away from their less maneuverable neighbors it is quite fitting that they be included in the general term vessel rather than having to be expressly enumerated under virtually every rule. (See comment on Rule 18(e) in regard to this definition).

(b) The term "power-driven vessel" means any vessel propelled by machinery.

Comment: Same as old Rule 1(c) (iii).

(c) The term "sailing vessel" means any vessel under sail provided that propelling machinery, if fitted, is not being used.

Comment: Similar to old Rule 1(c) (iv) except that the wording has been inverted to stress sailing vessels under power rather than power vessels under sail. This speaks to the many auxiliary sailing vessels.

(d) The term "vessel engaged in fishing" means any vessel fishing with nets, lines, trawls or other fishing apparatus which restrict manoeuvrability, but does not include a vessel fishing with trolling lines or other fishing apparatus which do not restrict manoeuvrability.

Comment: This term has been modified to include the requisite "which restrict maneuverability". This is a much needed modification which should clarify for the vast number of small pleasure craft that having a few lines over the side does not restrict their maneuverability nor does it make them fishing vessels within the meaning of these rules. The need for this change was put to our maritime community in the previously mentioned question and they favored this modification by a whopping percentile of over 30 to 1.

(c) The word "seaplane" includes any aircraft designed to manoeuvrc on the water.

Comment: Similar to old Rule 1 (c) (ii).

(f) The term "vessel not under command" means a vessel which through some exceptional circumstance is unable to manoeuvre as required by these Rules and is therefore unable to keep out of the way of another vessel.

(g) The term "vessel restricted in her ability to manoeuvre" means a vessel which from the nature of her work is restricted in her ability to manoeuvre as required by these Rules and therefore is unable to keep out of the way of another vessel.

The following vessels shall be regarded as vessels restricted in their ability to manocuvre:

(i) A vessel engaged in laying, servicing or picking up a navigation mark, submarine cable or pipelines;

(ii) A vessel engaged in dredging, surveying or underwater operations;

(iii) A vessel engaged in replenishment or trans-

ferring persons, provision or cargo while underway; (iv) A' vessel engaged in the launching or recovery of aircraft;

(v) A vessel engaged in minesweeping operation;

(vi) A vessel engaged in a towing operation such as renders her unable to deviate from her course.

(h) The term "vessel constrained by her draught" means a power-driven vessel which because of her draught in relation to the available depth of water is severely restricted in her ability to deviate from the course she is following.

Comment: Rules f and g are taken from old Rule 4, the "not-under-command" rule. The terms "not under command" and "vessel restricted in her ability to maneuver" are clarified. New terms that appear under "vessels restricted in their ability to maneuver" are vessels engaged in handling pipelines, dredging, transferring persons and cargo, and towing. Given separate status under 3(h) is the deep draft vessel. The full meaning of the responsibilities of these vessels and of other vessels to stay out of their way is contained in new Rule 18 which broadly defines which of various vessels must stay out of other vessels' way.

(i) The term "underway" means that a vessel is not at anchor, or made fast to the shore, or aground.

Comment: This rule is similar to old Rule 1(c)(v).

(j) The words "length" and "breadth" of a vessel mean her length overall and greatest breadth.

Comment: This rule is essentially the same as old Rule 1(c) (vii).

(k) Vessels shall be deemed to be in sight of one another only when one can be observed visually from the other.

Comment: This rule is exactly the same as old Rule l(c)(ix).

(1) The term "restricted visibility" means any condition in which visibility is restricted by fog, mist, falling snow, heavy rainstorms, sandstorms or any other similar causes.

Comment: This definition has been lifted from rule 15(c) and 16(a) and "sandstorms" have been added as examples of restricted visibility. Definitions (k) and (l) must necessarily appear in the general definitions in the front of the rules because ensuing steering and sailing rules are broken down by conditions of visibility. The first portion has to do with conduct in any condition of visibility. This is followed by conduct of vessels in sight of one another, and finally by a conduct of vessels in restricted visibility.

Know Your Job

Injury reports covering shipboard accidents indicate that seamen have accidents because they either lack knowledge of how to do their job safely or because they do not put into practice all they know about working safely.

To be a good seaman you must learn the right way to do your job under varying conditions at all times. Particularly, when at sea—you must become accustomed to the methods and practices of shipboard worktaking into consideration the riding characteristics of the vessel. If you know your job thoroughly, the chances are you will not get hurt, because you are aware of the things you should not do, which are just as important to know.

Besides knowing what you can and can't do with the equipment and materials you work with, along with skills you need to perform your job; you also have to know the elements of dangers that can be expected.

When you know your job, you know that there is a good reason for the special protective equipment that must be worn when performing certain jobs and you don't make excuses for not wearing them.

Everyone must realize that safety on the job is simply proper working habits to avoid accidents, it is an individual responsibility which is accomplished by constant "safety mindedness". You cannot separate safety from the work you are doing. It is an exacting part of how well you perform your job. The knowledge of what you are doing, plus the fact that you know how to do it, is the basis of all safety.

-Courtesy Lykes Lines Safety Bulletin

safety as others see it

Wear Protective Equipment

At sea, prior to arriving in port, a vessel was encountering rough seas, swells average heavy, rolling easily with ocassional moderate roll. The ship was not taking water on deck prior to or after the following described incident:

"Seamen were in the process of rigging the port accommodation ladder. A wire strap about 48" long with one end shackled to the gangway bridle and the other end to the outboard side of the gangway was used to swing the gangway out. While a seaman was on the accommodation ladder attempting to unshackle the end of the outboard side of the gangway, a heavy freak swell came over the ladder knocking him back against the ship's bulwark where the ladder is normally cradled."

The Ship's Accident Investigation Committee recommended the use of a hook in lieu of the shackle so that a seaman would not have to lean over the outboard side of the accommodation ladder in order to remove the strap.

The rigging of gangways should never be attempted when vessel is shipping seas on deck.

Anytime a seaman is performing work over water—on the accommodation ladder, staging, etc., a work vest must be worn to afford protection from drowning in the event of a fall into the open water.

Ship's personnel must make it a habit to use various types of personal protective equipment that is available to him whenever the work requires the need for such equipment. Don't endanger your life by taking chances.

-Courtesy Lykes Lines Safety Bulletin

Good Safety Attitudes Aid Morale

Preventing accidents is not a sideline to be followed when there is time and when it happens to be convenient. Preventing accidents is important to any business because it pays in good employee morale and good public relations.

A ship that has a good safety record can be of great value in aiding morale aboard ship. In each department you will find supervisory personnel who take pride in their work resulting in the efficient operation of their department, thus, creating a feeling of confidence and a sense of security by all hands.

A ship with a poor safety record could make crew members feel that the supervisory personnel are not on top of the job and do not take enough interest in safety.

You will find aboard vessels with good safety records that good safety attitudes and teamwork among its crew members have played an important part in their safety achievement.

A vessel can have a good safety program, with regular safety meetings being held, the ship covered with safety reminders and warning signs; you can be shown the safe way of doing your work; but none of these will make you accident free if you don't want to be. Safety is a personal thing. Accidents happen individually. To be successful in avoiding injury it is necessary that all hands endeavor to develop GOOD SAFETY ATTI-TUDES which will also aid in your vessel's "MORALE".

-Courtesy Lykes Lines Safety Bulletin

READERS INVITED TO SUBMIT MATERIAL FOR FUTURE ISSUES



ALL READERS are invited to submit comments safety suggestions, cartoons, articles, or similar material for publication in future issues of this publication. Submissions should concern the promotion of maritime safety are will be selected and edited at the editor discretion. Credit for published material we be given to the author, as appropriate, bur unused items will not be returned. A bore biographical sketch is requested of the author of any article in excess of 1,000 words.

Articles or requests for further information should be directed to:

Editor Marine Safety Council Proceedings U.S. Coast Guard Headquarters (GCMC/82) 400 Seventh St. SW Washington, D.C. 20590

MERCHANT MARINE SAFETY PUBLICATIONS

The following publications of marine safety rules and regulations may be obtained from the nearest marine inspection office of the U.S. Coast Guard. Because changes to the rules and regulations are made from time to time, these publications, between revisions, must be kept current by the individual consulting the latest applicable Federal Register. (Official changes to all Federal rules and regulations are published in the Federal Register, printed daily except Saturday, Sunday, and holidays.) The date of each Coast Guard publication in the table below is indicated in parentheses following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

The Federal Register will be furnished by mail to subscribers, free of postage, for \$2.50 per month or \$25 per year, payable in advance. The charge for individual copies is 20 cents for each issue, or 20 cents for each group of pages as actually bound. Remit check or money order, made payable to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Regulations for Dangerous Cargoes, 46 CFR 146 and 147 (Subchapter N), dated October 1, 1972 are now available from the Superintendent of Documents price: \$5.75

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CHANGES PUBLISHED DURING JULY 1973

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None.

