PROCEEDINGS OF THE MARINE SAFETY COUNCIL

3028 6 1710



DEPARTMENT OF TRANSPORTATION

UNITED STATES COAST GUARD

Vol. 29, No. 7

July 1972

PROCEEDINGS

OF THE

MARINE SAFETY COUNCIL

U.S. Coast Guard Vessel Traffic Systems . . .

THIS COPY FOR NOT LESS THAN 20 READERS-PLEASE PASS IT ALONG

CONTENTS

FEATURES	Page
U.S. Coast Guard Vessel Traffic Systems	127
Hawser Rigging Causes Foundering	132
The National Offshore Operations Industry	
Advisory Committee	134
DEPARTMENTS	
Coast Guard Rule Making	135
Maritime Sidelights	138
Amendments to Regulations	140
Affidavits	142
Fusible Plugs	142
Acceptable Hydraulic Components	142
CONTRE	

COVERS

FRONT COVER: On March 19, 1972, the pictured barge, carrying 640 tons of liquid chlorine broke loose from a tow that ran aground, drifted down the channel and stuck in the Ohio River dam at Louisville, Ky. creating a potential hazard of huge proportions. The dangerous cargo was finally completely removed from the barge on April 14. The Coast Guard convened a formal investigation of the incident. A feature article regarding the casualty, its causes, and the remarkable efforts on the parts of many agencies to avert disaster is planned for a future issue of the *PROCEEDINGS*.

BACK COVER: Pictured is Bethlehem Steel's 1,000-foot ore carrier, Stewart J. Cort. The self-unloading ship displaces 67,800 tons fully loaded, is capable of carrying a cargo of 58,300 gross tons of iron ore pellets, and is more than 100 feet longer than any other vessel under construction on or currently plying the Great Lakes. The carrier is Lakes-locked, and it was christened on May 4, 1972. Courtesy Bethlehem Steel Corp.

DIST. (SDL No. 95)

A: abcde (2); fhklmntuv B: n(40); c(16); e(5); f(4); gh(3); r(2); bkijq(1) C: gp(1) D: i(5); adgklm(1) E: None F: kp(1)

Lists 141M, CG-13, CG-20

Published monthly by the Commandant, USCG, in the interest of safety at sea under the auspices of the Marine Safety Council. Special permission for republication, either in whole or in part, with the exception of copyrighted articles or artwork, is not required provided credit is given to the Proceedings of the Marine Safety Council. All inquiries and requests for subscriptions should be addressed to U.S. Coast Guard (CMC/82), 400 7th Street SW., Washington, D.C. 20590. Use of funds for printing this publication has been approved by the Director of the Bureau of the Budget, May 21, 1969.

Admiral C. R. Bender, USCG Commandant

The Marine Safety Council of The United States Coast Guard

Rear Admiral W. L. Morrison, USCG Chief Counsel, Chairman

Rear Admiral W. F. Rea III, USCG Chief, Office of Merchant Marine Safety, Alternate Chairman and Member

Rear Admiral H. S. Pearson, USCG Chief, Office of Engineering, Member

Rear Admiral A. C. Wagner, USCG Chief, Office of Boating Safety, Member

Rear Admiral W. A. Jenkins, USCG Chief, Office of Operations, Member

Rear Admiral W. M. Benkert, USCG Chief, Office of Marine Environment and Systems, Member

Captain James H. Durfee, USCG Chief, Office of Public and International Affairs. Member

Captain Douglas H. Clifton, USCG Executive Secretary

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

Ensign A. W. Vander Meer, Jr., Editor

U.S. COAST GUARD VESSEL TRAFFIC SYSTEMS

A STATUS REPORT

By Rear Adm. W. M. Benkert and Comdr. R. C. Hill, USCG

The following article is from a paper and speech presented at the 1972 New Orleans Radio Technical Commission for Marine Services Assembly Meeting, April 1972.

INTRODUCTION

THERE IS NOTHING more frustrating then to have something really important to say -and not be able to say it. Unfortunately, a classic example of this was the collision between two tankers in San Francisco Bay in January 1971. The Coast Guard experimental harbor advisory radar detachment at pier 45 had both the Oregon Standard and the Arizona Standard on radar. The men on watch could see an apparent collision situation developing, but they were powerless to do anything about it because of faulty communication. We hope that by developing vessel traffic systems in our major ports, we can prevent any similar occurrence in the future. This will be done as part of the continuing development of a national plan for navigation, the prime objectives being to "promote safe and economic movement of maritime traffic."

OBJECTIVES OF A VESSEL TRAFFIC SYSTEM

The Coast Guard is still in the process of developing methods for analyzing the need for vessel traffic advice and control in a specific port or waterway. We have, however, set down some broad objectives:

1. Reduce the probability of ship collisions or groundings in our ports and waterways; and, thereby, reduce shipboard injuries and deaths and loss or damage to vessels and cargo which result therefrom.

2. Protect our ports and waterways from pollution caused by spills of petroleum products and other hazardous substances resulting from ship collisions or groundings.

3. Facilitate waterborne commerce in our ports and waterways by providing greatly improved all weather navigational aids.

4. Protect shoreside facilities by reducing the number of collisions or groundings in adjacent waters.

The attainment of these objectives can be facilitated by surveillance, communication, visual display, and some degree of traffic management. This requires that we:

1. Provide means for surveillance of vessel traffic by whatever method proves most cost effective in a particular port. This may include radar; low light level, high resolution, television; direct visual observation from shore or position reporting by other means.

2. Develop communication networks which will provide very reliable voice communication capabilities, vessel to vessel, vessel to shore, and shore to shore.

3. Devise traffic separation schemes, traffic lights, lane markers, buoy transponders and other low cost equipment as appropriate.

4. Operate shore based traffic advisory and control centers on a 24hour basis, as necessary to coordinate safe traffic movement.

Most of the hardware necessary to operate even a rather sophisticated vessel traffic system (VTS) such as one which includes radars, TV cameras, communications equipment, and computers, is available "off the shelf." Experience will undoubtedly establish a need to modify the equipment for the particular task of vessel traffic control. Also the requirements for hardware capability will differ from port to port. Other than that we do not foresee much large scale research and development of new equipment.

This is not true of the software needed to operate a computer oriented control center. There are difficult problems in programing computers to provide all of the features we might need in a complex port such as San Francisco or New York Harbor. A computer can quite easily be programed to track computer selected targets and provide information on speed and direction, but it gets more complicated when the computer tries to predict what will happen 30 minutes, 10 minutes or even 5 minutes ahead. This is particularly true when unpredictable targets are introduced such as recreational boats or small fishing vessels. We have a research and development program in progress to help us with some of these software problems.

BACKGROUND

Vessel traffic systems now exist in different forms throughout the world. The British pioneered the use of shore-based radar and VHF communication to assist vessels entering port. The first VTS of any consequence was the installation for the Port of Liverpool in mid-1948.¹ The first U.S. port to have a shore-based harbor radar station with the necessary voice communications was the city of Long Beach, Calif., in 1949.¹

By 1964, the Ports of Hamburg and Rotterdam both had fully developed systems in operation, each comprised of a series of shore-based radars and a VHF communications network. These systems have been spectacularly successful. The rate of vessel collisions in the approach to Rotterdam was reduced fourfold, in spite of significant increases in port tonnage generated by the rapid economic expansion of the Common Market.² Canadian authorities report that since inception of their traffic control system on the St. Lawrence Seaway in 1968, the number of collisions has been reduced to an average of three per year, with no loss of life or ship being sunk. This contrasts sharply with the average of 12 serious collisions per year recorded during the period 1964-67.

Worldwide, there are about 160 shore-based radars now providing assistance to marine traffic. Sweden alone has over 50 shore-based radar installations to provide marine services.

In addition to the VTS in the Port of Long Beach, there presently exist under U.S. jurisdiction vessel traffic services of a more limited scope than those mentioned above. Examples are:

1. Coast Guard control of vessel traffic in the St. Marys River, the connecting water on the Great Lakes between Lakes Huron and Superior.

2. Corps of Engineers stop-and-go traffic lights on the Mississippi River; a communication control network on the Chesapeake and Delaware Canal; and a combined radar and VHF communications system on the Cape Cod Canal.

 Advisory services such as broadcast notices to mariners and reports of bar conditions.

At this point I would like to pause for a moment and reflect on what the Coast Guard means by the term "traffic control." We certainly do not envision taking any responsibility away from the ship's master for direct control of his vessel. Our purpose is to assist him in every way possible. This assistance may include where necessary, mandatory requirements to slow, start, stop, or anchor. It will not include mandatory course changes or passing instructions except, conceivably, under the most emergent of situations.

The present authority of the Coast Guard to control vessel traffic is limited. With the exception of the statute (33 USC 474) that authorizes the

Rear Adm. William M. Benkert graduated from the U.S. Coast Guard Academy in 1943. His entire career has been interlaced with extensive sea duty and marine safety duties. His last command at sea was the polar icebreaker Eastwind out of Boston, Mass., 1965-67. Following that he commanded the Marine Inspection Office in New York for 3 years. He then served I year as Deputy Chief. Office of Merchant Marine Safety at Coast Guard Headquarters. In July 1971 he was promoted to Rear Admiral and was designated Chief of the new Office of Marine Environment and Systems.

Coast Guard to control traffic in the St. Marys River, it is based upon either aids to navigation statutes, or our port safety and security program pursuant to Executive Order 10173. We now have bills before Congress which would provide the Coast Guard with a permanent statutory basis for our present port safety program including specific authority for vesse traffic control. The House of Representatives, on October 12, 1971, passed H.R. 8140, "Ports and Waterways Safety Act," which would give us permissive authority to:

1. Establish, operate, and maintain vessel traffic services and systems for ports, harbors, and other waters subject to congested vessel traffic.

2. Require vessels which operate in an area of a vessel traffic system utilize or comply with that service of system, including the carrying or installation of electronic or other vices necessary for the use of the service ice or system.

The Senate has a similar bill befinit which we hope will pass early the year, thereby clearing the way for free legislative action.

At this point the events leading passage of H.R. 8140, in its present form, are worth reviewing. For many years the Coast Guard has been puting for permanent statutory basis is our port safety and security program—without notable success. The

¹ "Marine Radar," by Gilbert C. Fonda and Hilliard L. Lubin, Operational Radar Service Publications, Chester, Pa., 1970.

² "Computer Controlled Automatic Ship Positioning in Rotterdam Harbour," Capt. V. R. V. Winkelman, R.NL,N (Ret.), 1970. RTCM Paper.

Comdr. Ralph C. Hill graduated from the U.S. Coast Guard Academy in 1953. He served 1 year as a deck watch officer, then spent the next 4 years in engineering, the last two as chief engineer on a 213' seagoing tug in Portland, Oreg. He received a master's degree in naval architecture and marine engineering and a professional degree as naval engineer from Massachusetts Institute of Technology in 1961. After 2 more years as engineer on a high endurance cutter, he spent 81/2 years assigned to Merchant Marine Technical duties, the last 21/2 years as Chief of the Merchant Marine Technical Branch in New Orleans. He assumed his present position as Chief, Marine Traffic Management Branch at Goast Guard Headquarters on January 31, 1972.

on January 20, 1970, the USS Yancey, anchored off the Chesapeake Bay Bridge, tore loose from her anchorage in high winds and knocked out three portions of the Chesapeake Bay Bridge-Tunnel complex. The bridge was closed for 21 days, commercial interests were tied up for over a month, and the total cost of the incident to the Bay Bridge Commission was \$2.4 million. On February 5, 1970, Congressman Downing, of Virginia, introduced the first bill which included specific provisions for vessel traffic control.

In May 1970, the President, in his oil pollution message to Congress, urged enactment, among other things, of legislation directed at vessel traffic control. Shortly thereafter, the Department of Transportation submitted their own ports and waterways safety proposal which was introduced as H.R. 17830.

Testimony on H.R. 17830 favored the marine safety and environmental purposes of the bill, but was almost unanimous in opposition to many provisions of the bill. The general tenor was that it was too loosely drawn and too broad in scope. While an improved version of the bill was being drafted, the Oregon Standard collided with the Arizona Standard in San Francisco Bay with the resultant discharge of 800,000 gallons of oil into the bay. This lent great impetus to ports and waterways safety legislation.

CURRENT STATUS OF U.S. COAST GUARD VTS DEVELOPMENT

A. San Francisco Harbor

In January 1970, an experimental harbor advisory radar (HAR) was placed in service in San Francisco Harbor. Participation has been purely voluntary. It will become a limited operational VTS in July 1972 with an improved communicaions network. By January 1973, we will have a new control center on Yerba Buena Island with new radars and communication equipment. This vessel traffic control center will be a functionally reliable system capable of providing full time service. The degree of "control" exercised will be limited until the ports and waterways bill becomes law. After passage of this bill, required vessel participation and degree of control will be that determined necessary through joint discussions with the users, other interested parties, and the Coast Guard.

In order to obtain full input from the maritime community, the Coast Guard district commander in San Francisco organized a Bay Traffic Committee in September 1971. The purpose of the committee is to study traffic problems in the harbor and its approaches and to make recommendations to the Coast Guard. In addition to Coast Guard personnel, there are representatives on the committee from major shipping companies, towboat and ferry companies, labor unions, pilot associations, yacht. clubs, port authorities, the Maritime Administration, and the U.S. Navy.

Concurrent with our operational



Pictured above is one version of a proposed vessel traffic system envisioned for the San Francisco Bay area.

developments in San Francisco, we are continuing our research and development efforts in that harbor. An experimental computerized system will be installed and tested in the last half of 1972 on a not-to-interfere basis. This system will feature automatic radar contact detectors; acquisition and tracking for both radar sites; operator callup for analyses of relative position, closest point of approach, and lane segment encounters; automatic analyses and alert for lane straying and collision (prediction); and computer storage of ship movement information. In addition, there will be a simulation station with synthetic video presentations and an interactive computer graphics terminal. This will be used for operator training, investigation of traffic management and sea lane layout studies.

B. Puget Sound

The waters of Puget Sound were selected as our second major test site for vessel traffic systems. The geographical configuration of Puget Sound is quite different from San Francisco Bay giving us the opportunity to develop concepts generally applicable to long, relatively narrow, channels as opposed to congested harbors. Also, Puget Sound has a great variety of marine traffic. It is one of the world's great recreation areas. Small recreational boats abound, as do small commercial fishing vessels. Other traffic ranges from tugs and barges to deepdraft, oceangoing, naval, and merchant vessels. It will also see an increase in tankship activity as one delivery point of oil from Valdez, Alaska, once the oil from the Prudhoe Bay discovery starts flowing.

Our Puget Sound VTS is scheduled to become operational in early summer 1972. The initial system has two primary features. One is a VHF communications network, the other is a traffic separation scheme, or traffic lanes, if you will.

The communications network will be controlled from a central station located on pier 90 in Seattle. We are installing four remotely located communications sites to provide reliable coverage of the area. Signals received from vessels will be relayed to the control center by land lines and/or microwave lines. This system will provide participating vessels with the location and movement of other vessels, hazards to navigation, and unusual weather and sea conditions. In addition, general broadcasts will be made to nonparticipating vessels; i.e., vessels that are not equipped with radio equipment required for full participation. The question of which vessels would be required to participate and which would not, has not yet been resolved. It is a knotty problem. Again, we are actively pursuing such questions with the interested parties who use the waters of Puget Sound.

The traffic separation scheme is still under development. In the Strait of Juan de Fuca it will probably be simply a series of midchannel buoys to separate inbound and outbound vessels. The problems go up exponentially as the harbor areas of Seattle, Tacoma, and Bellingham are approached. Also it is in our best interest to coordinate our activities with those of our Canadian neighbors to the north. This is being done.

C. Houston Ship Channel

Houston is the third most active port in the United States in terms of tonnage. In 1970, Houston's port facilities handled 62 million tons of cargo, carried by some 4,000 ships and 20,000 barges through a narrow waterway known as the Houston Ship Channel. The Houston Ship Channel is a manmade waterway approximately 50 miles long, 400 feet wide, and 40 feet in depth from its entrance in Galveston Bay to the Houston Turning Basin. Along this waterway, and especially the last 22 miles from Morgan Point to the Turning Basin, a giant \$4 billion industrial complex has developed. Forty million out of the 62 million tons of cargo handled by the Port of Houston in 1970 was bulk liquid; primarily petroleum products. Seventy percent of all cargo handled by the ship channel may be classified as "dangerous cargo." Ninety percent of the poisons transported by water in the United States pass through the ship channel. No one questions the need for some type of vessel traffic advisory or control service in this channel.

Coast Guard marine casualty statistics for the period 1965 through 1968 show that the Houston Ship Channel averaged 3.5 vessel collisions or groundings per month. Fortunately, none were as catastrophic as the Texas City disaster in 1947, or as costly as the 1971 tanker collision in San Francisco; but a tremendous potential for disaster does exist in the "fabulous 50 miles."

The Coast Guard has been concerned with this problem for many years. Working with the port advisory council through the Coast Guard captain of the Port in Houston, we have developed a local chemical information service capability. We have improved our regulations for vessels carrying dangerous cargoes in bulk. We have required foreign flag chemical carriers to comply with our design regulations or stay out. Now we are planning a vessel traffic system. We have funds for initiating this project in our budget request for fiscal year 1973. We are confident that this item will survive the budgetary process.

At the time of drafting this paper our plans for the VTS in the Houston Ship Channel were under development. The basic traffic pattern is quite simple. Traffic is primarily up or down bound with very little cross traffic except where the channel cuts through Galveston Bay. Our intent is to coordinate vessel movement by maintaining traffic separation, and by uninimizing meeting situations at critical spots.

From preliminary surveys, we estimate there may be as many as 165 vessels in the channel during peak hours. Our system will have the capacity to handle up to 200 vessels at one time, allowing for expected growth. The heart of the Houston VTS will be a highly reliable communication network. The communication system must provide complete coverage of the waterway from seaward of the entrance to Galveston Bay to the Houston Turning Basin. Traffic advice and control will be performed around the clock. The control center will contain communication terminals, electronic surveillance displays, and visual presentations of vessel movements.

COMMUNICATIONS

It is not a purpose of this paper to deal extensively with communication equipment or techniques. However, any discussion of vessel traffic systems without including communications would be remiss. The heart of any VTS from a simple stop-go system to a sophisticated computer-aided system is a complete, reliable, communications network adequately staffed, suitably equipped, and carefully maintained.

Participants in any one sector of a vessel traffic system must be able to call each other at any time. Designated frequencies must be set aside for this purpose. This simple requirement presents complicated coordination problems. All VHF communication in a VTS will fall within the internationally designated maritime mobile band frequencies, 156-174 mHz. This narrows the problem, but if each of our world's major ports selected frequencies within this range willy-nilly we would still have mass confusion. Thus, it is imperative that a limited block of frequencies be set aside for international VTS.

We are coordinating our efforts in Puget Sound with the Canadians. Even with the international problem reduced to its simplest proportion, i.e., two countries only, it is still complicated. From their experience in the St. Lawrence Seaway, the Canadians feel there is a real advantage in having all vessels in a specified area monitoring and transmitting on a single frequency. In this way all masters can get a feeling for the traffic situation in their area, and are least likely to miss a call from the traffic control center or from another vessel. To implement this, the Canadian portion of the seaway is divided into six geographical sectors with one frequency assigned to each (channels 9–14). In addition, all vessels must be equipped with channels 6 and 16. Thus a vessel traversing the full length of the seaway needs eight-channel capability.

The new Vessel Bridge-to-Bridge Radiotelephone Act which became law on August 4, 1971, will, upon implementation, require that most vessels in U.S. waters be equipped with a radiotelephone capable of transmitting and receiving in the 156– 162 mHz frequency range. The bridge-to-bridge frequency (or frequencies) had not been settled at the time of drafting this paper. Whatever they are will enter into our final frequency selection for both the Puget Sound and San Francisco VTS.

Of interest is that the original VTS in Rotterdam, using 10 VHF duplex channels, was nearing saturation in 1970 with a maximum of 12–14 ships in one sector being assisted at peak loads. Their new system has 14 duplex channels. The pilots using the system carry portable, 24-channel, VHF transceiver sets.

FUTURE PLANS

We have just completed preparation of our budget estimates for fiscal year 1974 which include monies for several planned additional vessel traffic systems. Again, final system designs in any particular port or waterway will be dependent upon:

1. The results of an outside contract study to be completed in December 1972;

2. The results of an in-house issue study on VTS for the Department of Transportation to be completed in December 1972;

3. The results of our continuing research and development in San Francisco;

4. The experience gained in operating the systems in San Francisco and Puget Sound;

5. And of course, the demonstrated, specific needs of the particular area, as determined by consultation with the maritime community.

The two major objectives of our contract study are:

1. To analyze the potential roles of Federal, State, and local authorities in VTS for U.S. ports; and to present alternatives for a Coast Guard role; and

2. To analyze the quantitative and qualitative factors to be considered in the determination of the needs for various levels of VTS in U.S. ports.

The in-house issue study for the Department of Transportation will present a thorough review of where we are and where we are going. It will provide an in-depth analysis of, and justification for, our budget requests; and it will set forth clearly defined alternatives on which to base top management decisions.

SUMMARY

The purpose of this paper was to present a report on the current status of U.S. Coast Guard developments in vessel traffic systems. The objectives of any marine traffic system are to save lives and property, protect the environment and facilitate commerce. To this end the Coast Guard started a research and development project in San Francisco Bay in 1969. San Francisco was selected as our test site for the following reasons:

a. The bay complex presents several traffic patterns. These would allow the experience gained to be extrapolated to other ports.

b. Traffic density was not so high that the experiment would be unduly complex in data collection and analysis;

c. The bay had an established voluntary vessel movement reporting system and an existing well-developed communication system, both of which provided natural access to maritime shipping;

d. The relatively high occurrence of fog would permit a more complete

(Continued on page 139)

Hawser Rigging Causes Foundering

On February 1, 1972, the dredge Alaska was anchored in Hampton Roads, Va., conducting dredging operations. The towing vessel William was attempting to reset a pipeline anchor for the dredge before the tide would change at 4:14 a.m. The pipeline anchor and makeup consisted of a 2-ton Navy stockless anchor with 45 feet of 1-inch cable pendant and 150 feet of 13%-inch steel mooring cable. At approximately 3 a.m., the William took the first buoy alongside to port, and the deckhands passed a 2-inch polyethylene hawser through an eye on the buoy. The bitter end was made fast to the towboat's after towing bitt. Approximately 24 feet of hawser was out doubled-the length of hawser between boat and buoy being 12 feet. Neither the master nor the mate supervised the securing of the hawser. The master let the tide, ebbing due north at 2 knots, set the William down from the buoy to take slack out of the hawser, which was tending over the towboat's port quarter. As the hawser became taut, the towboat began to heel to port. The master went ahead on the port screw in an attempt to swing the vessel around to allow the hawser to tend straight over the stern; but the length and the angle of the hawser would not allow the buoy to clear the wheel guard skirt on the William. The strain on the hawser and the force of the tidal current caused the vessel to heel farther to port immersing the wheel guard skirt and a portion of the port deck. The master immediately backed down on both screws to relieve the strain on the hawser in order to right the vessel. The stern went under and the vessel heeled farther. Water began entering the machinery space through an open after hatch. The master placed the throttles in neutral as the vessel floated on its port side for 2 to 3 minutes before it rolled over, settled by the stern and sank in ahout 50 feet of water.



A view of the tug William, showing the location of her towing bitts, the taffrail with its 7-inch by 3-inch freeing ports, and the wheel guard skirt at her stern.

The vessel's crew-a 23-year-old master who had served in that capacity for about 9 months, a mate, and two deckhands-none of whom were licensed or documented by the Coast Guard nor were required to be, abandoned the vessel and swam for the pipeline. Three of them made it to the pipeline pontoon and pulled themselves aboard. The fourth crewmember, a deckhand, was carried beyond the pipeline by the current where he was picked up by a nearby tug. All of the men were wearing Coast Guard approved lifesaving devices. None of them sustained signifi-

cant injuries. The vessel was refloated the next day.

The William was built in 1958. She is 42 feet long with a 12-foot beam and a draft of 6 feet, 6 inches. Her hull is subdivided into four compartments of which the machinery space, located amidships, is the largest. Access to the machinery space is provided by a 2-foot by 4-foot steel door located below the main deck between the machinery space and the forward living space. This door was hooked open at the time of the casualty. Another machinery space access is provided by a 21-inch by 21-inch rectangular steel hatch located aft, some 29 inches above the main deck. This hatch, with no gasket, and no positive means of securing, was, therefore, open at the time of the casualty as was the forward of the two port portholes. The vessel's freeboard is 18 inches at the stern. It is not a Coast Guard inspected vessel and load line regulations do not apply.

The stern of the William has a bulwark type taffrail beginning at the deck approximately 10 feet forward of the stern, extending aft and tapering up to a height of 15 inches at the stern. There are three freeing ports approximately 7 inches by 3 inches in size, located aft on each side of the bulwark. The wheel guard skirt extends 30 inches on each side of the stern waterline and tapers into the hull approximately 10 feet forward of the stern. This skirt is of a bulwark type construction and contains no freeing ports. The towing bitts are located approximately 12 feet forward of the stern taffrail.

The tug William sank previously in 1964 while moored alongside a larger tug. The larger tug backed down causing the William's stern to go under, sinking the tug.

The Coast Guard investigating officer concluded that the proximate cause of this casualty was an improperly rigged hawser. The hawser was too short to allow the tug to get the tow astern. A force was exerted on the beam of the tug as a result of the maneuver to get the tow astern; this caused the vessel to heel excessively to port.

The lack of freeing ports in the wheel guard skirt was a contributing cause in that the skirt acted to force the vessel's stern under when the tug backed down. An additional contributing cause was the master's apparently limited experience in that his backing down aggravated a dangerous situation. His failure to examine or supervise the makeup of the hawser was considered evidence of improper judgment.

(Continued on page 137)



The hatch on the after portion of the tug William leads into the vessel's machinery space, comprising three-fourths of her internal volume. There was no means of securing the hatch to prevent the ingress of water. Flooding through this and other openings caused the sinking of the tug.



The wheel guard skirt at the tug's stern was below the waterline when the vessel was tied to the pier. When the vessel was backed down, since there were no freeing ports in the skirt, the force of water pushed the tug's stern down.

THE NATIONAL OFFSHORE OPERATIONS INDUSTRY ADVISORY COMMITTEE

The National Offshore Operations Industry Advisory Committee (formerly the National Offshore Operations Advisory Panel) was first established by the Secretary of the Treasury on December 15, 1959, and has continued to provide valuable counsel to the Coast Guard on matters affecting safety of life and property in the offshore operations industry. As are the other Industry Advisory Committees affiliated with the Coast Guard, the Offshore Industry Advisory Committee is advisory to the Coast Guard's Marine Safety Council, and in turn to the Commandant. The Committee is presently composed of 15 members serving without pay or travel benefits from the Coast Guard who represent various phases of the offshore industry especially concerned with marine transportation. Roy T. Sessums serves as chairman of the Committee, assisted by H. E. Denzler, Jr. who serves as the Committee's secretary. The Committee's 1972 annual meeting is scheduled for San Francisco, July 11 through 13.

The Commandant, Adm. Chester R. Bender, speaking at last year's meeting in New Orleans stressed the need for stepped up safety efforts by

the Committee and the Coast Guard in light of the continuing serious casualties in offshore operations. Toward this end, last year's session dealt with such topics as manning, licensing, and stability, mobile drilling units, international operations, law of the sea conventions. offshore operations safety, pollution, seismographic vessel operations, contemplated changes in Coast Guard regulations, and pending legislation. Included during the session was a helicopter tour of several gulf coast offshore rigs. This provided key Coast Guard officers from headquarters and field units an opportunity to review first hand the full scope of the many-faceted offshore industry.

During the year since the last meeting, subcommittees have met to consider various proposals and suggestions which will be discussed with the Coast Guard at the July meeting. These subcommittees include those on manning, licensing and stability, mobile drilling units, law of the sea conventions, offshore operations safety, pollution, and seismographic vessel operations. The subcommittees meet as the need arises in informal sessions aimed at developing working papers for full committee consideration.

First on the agenda at this year's meeting will be a review of the Committee's function in light of the changing role of the Marine Safety Council in the Coast Guard's regulatory program. The Commandant will address the Committee briefly on some of the major developments in areas of mutual concern over the past year. There will be reports from each of the subcommittees with discussion following. Some of the areas likely to receive attention are the assignment of a senior Coast Guard officer to New Orleans to study some of the regulatory problems of the offshore industry there and report back to Coast Guard Headquarters, proposed regulations regarding inspection of mobile drilling units, the "overseas problems" facing the industry and the Coast Guard, aids to navigation regulations, and the transportation of flammable, combustible, and hazardous materials to the offshore facilities. The still pending oil pollution prevention regulations will receive attention, as will the Coast Guard's developing role in marine pollution abatement and Coast Guard action on the bridge-to-bridge radiotelephone regulations. 击

NATIONAL OFFSHORE OPERATIONS INDUSTRY ADVISORY COMMITTEE MEMBERSHIP

ROY T. SESSUMS, chairman, National Offshore Operations Industry Advisory Committee, Freeport Sulphur Co.

H. E. DENZLER, JR., secretary, National Offshore Operations Industry Advisory Committee, assistant to vice president—production, Chevron Oil Co.

H. W. BAILEY, executive vice president, J. Ray McDermott and Co., Inc.

E. O. BELL, producing manager, New Orleans Division, Mobil Oil Co.

RALPH F. COX, resident manager, Alaska District, Atlantic Richfield Co.

H. T. FINNEY, manager of operations, Pacific Coast Division, Union Oil Co. of California.

ROBERT E. FRANCE, manager, Producing Department, Southern Division, Standard Oil Co. of California, Western Operations, Inc. WILLIAM M. HOUSE, manager, Joint Venture, Signal Oil and Gas Co.

H. T. HUNTER, division production manager, Pan American Petroleum Corp.

ALDEN J. LABORDE, president, Ocean Drilling and Exploration Co.

J. P. LABORDE, chairman of the board and president, Tidewater Marine Service, Inc.

E. V. PEARSON, general manager, Coastal Division, Shell Oil Co.

J. W. PITTMAN, executive assistant to the vice president, Shell Oil Co.

J. W. RUSSELL, JR., Santa Barbara production superintendent, Phillips Petroleum Co.

JON M. THACKER, district production manager, Gulf Oil Corp.

COAST GUARD RULEMAKING

(Effective May 31, 1972)

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
1971 PUBLIC HEARING				1			1
 PH 2-71 Marine Engineering (subchapters F, Q, and T): 2a. Miscellaneous changes. 2b. Aluminum fuel tanks. PH 5-71 Electrical (subchapters D, J, and T): 5a. Definitions, clarifications, and manuals. 5b. Invation provided to the second secon	2-24-71 2-24-71 2-24-71	3-29-71 3-29-71 3-29-71	5-15-71 5-15-71 5-15-71			3-25-72 3-25-72	4-28-72 4-28-72
5c. Requirements for Underwriters' Laboratories.	2-24-71	3-29-71	5-15-71			3-8-72	6-1-72
Inc., listing or labeling 5d. Impressed cathodic protection systems on tank	2-24-71	3-29-71	5-15-71			3-8-72	6-1-72
vessels	2-24-71 2-24-71 2-24-71 2-24-71 2-24-71 2-24-71	3–29–71 3–29–71 3–29–71 3–29–71 3–29–71 3–29–71	5-15-71 5-15-71 5-15-71 5-15-71 5-15-71 5-15-71	· · · · · · · · · · · · ·	5–10–72	3-8-72 3-8-72 3-8-72 3-8-72 3-8-72	6-1-72 6-1-72 6-1-72 6-1-72
 7a. Ring life buoys and waterlights 7b. Additional life-preservers on passenger vessels 7c. Illumination of lifesaving launching areas PH 8-71 Specification: 	2–24–71 2–24–71 2–24–71	3-29-71 3-29-71 3-29-71	5–15–71 5–15–71 5–15–71		· · · · · · · · · · · · · · · · · · ·	3-9-72 3-9-72 3-9-72	4-10-72 4-10-72 4-10-72
 8a. Lifeboat winches. 8b. Lifeboats. 8c. Line-throwing appliances. 8d. Inflatable liferafts. PH 9-71 Fibrous glass-reinforced plastic construction of 	2-24-71 2-24-71 2-24-71 2-24-71 2-24-71	3–29–71 3–29–71 3–29–71 3–29–71 3–29–71	5–15–71 5–15–71 5–15–71 5–15–71	XXXX		· · · · · · · · · · · · · · · · · · ·	• • • • • • • • • • • • • • • • • • •
(Second Notice of Proposed Rulemaking due to revi-	2-24-71	3-29-71	5-15-71			· · · · · · · · · ·	
sions of original proposal)	4-6-72	None	5-8-72	X.			
1972 PUBLIC HEARING							
Synthetic fiber rope for line-throwing appliances (35-70, 27-71). Tailshaft inspection and drawing (67-71, 4-71). Stability-wind heel criteria for cargo and miscellaneous	3-1-72 3-1-72	3-27-72 3-27-72	43-72 43-72	×.	••••••		
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	4-3-72 4-3-72	×. ×.			
Subchapters D, H, and I, safety factors for cargo gear	3-1-72	3-27-72	4-3-72	Χ.			
Visual acuity requirements, original licenses (23–71) Flashing navigation lights on barges (33–71). Life preserver rescue lights (68–71). Two avenues of escape—tank, cargo, and oceanographic	3-1-72 3-1-72 3-1-72 3-1-72 3-1-72	3–27–72 3–27–72 3–27–72 3–27–72 3–27–72	4-3-72 4-3-72 4-3-72 4-3-72	XXXX	· · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	·····
Inspection of bottom bearing mobile offshore drilling and	3-1-72	3-27-72	4-3-72	× .			
workover units (87-71)	3-1-72	3-27-72	4-3-72	×			

Coast Guard Rulemaking—Continued

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
ANCHORAGE REGULATIONS							
Apra Harbor, Guam (CGD 72-51) Neenah Harbor, Neenah, Wis. (CGFR 72-11) Puget Sound Area, Wash. (CGFR 72-13) St. John's River, Fla. (CGFR 71-162) San Francisco Bay Area (CGD 72-78)	3-15-72 2-1-72 2-3-72 12-22-71 4-28-72	5–24–72 San	4–17–72 3–4–72 3–5–72 1–31–72 5–27–72	:××××	· · · · · · · · · · · · · · · · · · ·	5-31-72	7–1–72
San Juan Harbor, P.R. (CGFR 72–12) Willington River, Ga. (CGFR 71–153)	2–1–72 11–25–71	Fran- cisco	3 -4- 72 12-27-71	××			
BOATING SAFETY (GENERAL)							
Boat safety standards (CGD 72-61) Defect notification (CGD 72-55). Hazardous conditions, correction of (CGD 72-71) Manufacturers requirements (CGD 72-60) Numbering and casualty reporting (CGD 72-54)	4-22-72 4-5-72 4-19-72 4-22-72 4-19-72	5-17-72 5-3-72 5-17-72 5-17-72 5-17-72	5-31-72 5-11-72 5-31-72 5-31-72 5-31-72 5-31-72	xxxxx		· · · · · · · · · · · · · · · · · · ·	
BRIDGE REGULATIONS	201			-			
Atlantic Intracoastal Waterway, Beaufort River, S.C. (CGFR 72-15). Bear Creek, Md. (CGFR 72-17). Black Water River, Fla. (CGD 72-87). Chattahoochee River (CGFR 71-166).	2–2–72 2–2–72 5–10–72 12–29–71	1–26–72 Florida	3-7-72 3-7-72 6-13-72 1-27-72	×× ×			
Idaho State Memorial Bridge, Clearwater River, 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 Washing-	2-1-72 1-27-72	××			
Johnson River, Conn. (CGFR 72-41)	3-3-72		4-3-72	×			
Mispillion River, Lewes and Rehobeth Canal, Del. (CGFR 71-164). Nanticoke, Del. (CGFR 71-142). Neuse and Trent Rivers, N.C. (CGFR 71-137). Ogden Slip, Chicago, Ill. (CGFR 72-16). Sacramento River, Cal. (CGFR 72-16). Saginaw River, Mich. (CGFR 72-18). Sheepscot River, Maine (CGFR 72-42). Sinepuxent Bay, Md. (CGFR 71-163). Union Pacific RR Co., Columbia River (CGFR 71-167).	$\begin{array}{c} 12-29-71\\ 11-24-71\\ 11-13-71\\ 2-2-72\\ 12-29-71\\ 2-2-72\\ 3-3-72\\ 12-29-71\\ 12-29-71\\ 12-29-71\\ \end{array}$	2-23-72 Wash- ington	2-7-72 12-24-71 12-17-71 3-7-72 2-7-72 3-7-72 4-3-72 2-7-72 1-27-72	XXXXX XXX		3-14-72 3-14-72 5-19-72 4-5-72	4-17-72 4-17-72 6-26-72 5-5-72
HAZAKDOUS MATERIALS							
Bulk molasses, removal of (CGD 72-58) Cold compressed gases (CGFR 72-10)	3-24-72 10-16-71	4-25-72 1-11-72 1 2-22-72	4-25-72 1-18-72 1 2-29-72	×			• • • • • • • • • • • • • •

¹ Extension of comment period and second public hearing.

Coast Guard Rulemaking—Continued

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
HAZARDOUS MATERIAL (Cont'd) Corrosive liquids (CGFR 71-32). Dangerous cargoes (CGFR 71-139/CGD 72-89). Etiologic agents (CGFR 71-170). Radioactive materials (CGFR 71-62). Radioactive materials (CGFR 71-136). Radioactive materials packages (CGD 72-91). Stabilized methylacetylene propadiene on board vessels (CGFR 71-154). MARINE ENVIRONMENT AND SYSTEMS (GENERAL)	5-26-7111-19-711-7-727-9-7111-20-715-24-7211-30-71	8-10-71 1-18-72 3-28-72 8-24-71 2-22-72 6-20-72 1-18-72	8-17-71 1-25-72 4-4-72 8-31-71 2-29-72 6-27-72 1-25-72	: :xxxx ::		11-5-71 5-13-72 4-19-72	12–31–71 9–30–72 7–24–72
COTP areas (12th Coast Guard District) (CGFR 72-26). Fog signals (requirements) (CGD 72-74) Oil pollution prevention (CCFR 71-160, 161) Oil pollution prohibited zones (CGD 72-82) MERCHANT MARINE SAFETY (GENERAL)	4–19–72 12–24–71	2-15-72	51572 42172	××		2-15-72	2–16–72 7–30–72
 Boundary lines, inland waters (Louisiana, Texas, California) (CGD 72-67). Bridge-to-bridge radio-telephone (CGFR 71-114). Buoyant devices, special purpose water safety (CGFR 72-5). Documentation ports (Pascagoula and Gulfport) (CGFR 72-39). Documentation ports (CGFR 72-19). Fire extinguishers, marine type portable (CGFR 72-36). Incombustible materials (CGFR 72-47). Oceanographic vessels, fire main systems (CGFR 72-20). Personnel certification (requirements) (CGFR 72-25). Small passenger vessels, certificate forms (CGFR 72-53). Washroom and toilet facilities (CGFR 72-48). 	$\begin{array}{r} 4-6-72\\ 3-29-72\\ 1-29-72\\ 3-9-72\\ 2-4-72\\ 3-9-72\\ 2-4-72\\ 2-12-72\\ 3-15-72\\ 1-15-72\\ 3-9-72\\ 3-9-72\end{array}$	4-28-72 4-18-72 4-18-72 4-18-72	5-8-72 4-29-72 3-15-72 4-11-72 4-4-72 4-24-72 4-24-72 3-19-72 3-17-72 4-17-72 3-20-72 4-24-72	xx x xxxxx ixxx		5-31-72	7-30-72

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 manges which have not been placed formally before the public will not be included.

Foundering (Continued from page 133)

It was concluded that this casualty might have been prevented or minimized had the machinery space portholes, deck hatches and manhole covers been properly maintained and secured and that the crew's wearing of approved lifesaving devices while

July 1972

working may have contributed to their survival.

In this casualty the harm done was minimal. The tug sank and it was expensive to refloat and repair her. But no one was hurt. The chilling thought is of what might have been. This sort of tripping casualty has happened with dire results in the past. See the detailed accounts of the sinkings of the *Theresa F*. and the *Joan Ellis* in the August 1971, and January 1972 issues of the *Proceedings*, respectively. \clubsuit

maritime sidelights

Turned On

Our younger generation tells us it has to be "turned on." We who live aboard are automatically "turned on" even when off duty.

Have you ever stopped to think about the number of things that you can tell are happening aboard right from your room, or maybe even from your bunk?

Your sense of smell can often detect fires in their early stages, especially smoldering ones.

Your sense of hearing can indicate impending machinery problems by change in pitch or tone.

The rattle of the chains from the telegraph can indicate a speed change or sudden maneuvering.

The foot stomping on the overhead of the captain's cabin sometimes gets him up faster than a telephone.

Change in pitch of the wind howling outside your porthole may indicate a change in course or windshift.

Sudden shouts, or the sounds of running feet often indicate a spillover or something else of an emergency nature.

The cavitation of pumps usually indicates they're sucking air and need attention.

In the engine room there are hundreds of sounds, each of which tells the alert engineer many things about his plant that even the sophisticated read-out systems won't tell him.

If your knees are propped up against the bulkhead as you sleep, you can feel the vibrations if the mooring lines are getting too tight.

Tugboat captains leaning back from their wheels in the pilot house can feel the vibration through their heels as each scow astern dumps its load.

As for sight, when one sees the lights alternately dimming and bright-

ening, the ship may be about to lose a generator. Among other things, it would be wise to lock the gyro in place so that it doesn't turn over.

None of these senses should be overlooked in this modern era of gauges, computers, read-outs, and other electronic guides.

Your basic senses of sight, smell, and hearing should always be turned on whether you are on or off duty. Nature gave you these, so use them to help you be a good seaman, regardless of whether you sail below, on deck, or in the stewards' department. -Courtesy Ships Operational Safety, Inc.

Storm-Information Service Doubled

The Department of Commerce has doubled its storm-information service for deepwater sailors in the Atlantic and Pacific Oceans. The program is a joint effort of the National Weather Service (a component of the National Oceanic and Atmospheric Administration) and the National Bureau of Standards.

The service, begun last snmmer, previously consisted of hourly broadcasts of about 45 seconds each, giving information about major storms causing hazardous conditions for ships at sea. The weather broadcasts are super-imposed on time signals carried by NBS radio stations WWV in Fort Collins, Colo., and WWVH in Kauai, Hawaii.

The new, expanded service, which began April 1, consists of two 45-second broadcasts, 1 minute and 15 seconds apart, and gives more information about more storms.

The broadcasts are made around the clock. Station WWV carries information about storms in the westeru North Atlantic and Gulf of Mexico. The beginning time for each broadcast for this area has been changed from 16 minutes after every hour to 10 minutes after, on radio frequencies 2.5, 5, 10, 15, 20, and 25 megahertz. Station WWVH lists storms in the eastern and central parts of the North Pacific. Beginning time continues to be 49 minutes after every hour, on 2.5, 5, 10, 15 and 20 mHz. Ocean areas involved are those for which the United States has warning responsihility under international agreements. The new broadcasts include, for the first time, data on the midlatitude and tropical areas of both oceans.

If there are no storm warnings for the designated areas, the broadcasts so indicate. The brief messages are designed to tell mariners if there are storm threats in their areas—not to provide complete information. Mariners are expected to check with one of the regular marine broadcasts for details. ‡

Correction of An Especially Hazardous Condition

With the passage of the Federal Boat Safety Act, Coast Guard boarding officers are empowered to require boatmen operating in an unsafe condition to return to the nearest safe mooring.

The authorization for this policy is contained in section 13 of the new Act, which reads: "If a Coast Guard hoarding officer observes a boat being used without sufficient lifesaving or firefighting devices, or in an overloaded or other unsafe condition as defined in regulations of the Secretary, and in his judgment such use creates an especially hazardous condition, he may direct the operator to take whatever immediate and reasonable steps would be necessary for the safety of those aboard the vessel, including directing the operator to return to mooring and to remain there until the situation creating the hazard is corrected or ended."

Vessels which lack sufficient lifesaving or firefighting devices can be judged objectively whereas overloaded boats and possible situations covered by future regulations will have to be judged more subjectively. For this reason, only specially qualified boarding officers will be authorized to issue orders for termination of unsafe use.

VTS

(Continued from page 131)

evaluation of the worth of the system in facilitating vessel movement in periods of low visibility.

Our original plan was to proceed rather deliberately with our San Francisco experimental system before trying to develop any fully operational systems. The collision between the two tankers in January 1971 accelerated our plans. This same collision also provided the impetus for the Puget Sound development. Congress, in July 1971, appropriated for the Coast Guard \$1 million to start development of a VTS in the sound. This may be considered a test site as well as an operational system. It gives us the opportunity to develop equipment and methods in another area of relatively low traffic density with geographical problems considerably different from the San Francisco project.

With the experience gained, we intend to proceed as rapidly as possible into other port areas, where our preliminary studies indicate a need for improved traffic control services. On April 19, 1972, proposed regulations defining "Other unsafe conditions" were printed. These proposed "Other unsafe conditions" are: (1) Improper display of navigation lights at night; (2) leakage of fuel; (3) accumulation of fuel; (4) lack of Coast Guard approved flamearresting devices on inboard gasoline engines; and (5) improper or insufficient ventilation for tanks and engine spaces.

In order to clarify terms and phrases used in reference to correction of an especially hazardous condition, the following list is provided.

"Especially hazardous condition" means a situation involving a substantial risk of injury or loss of life or property damage. "Boat" means any vessel manufacturered or used primarily for noncommercial use; or leased, rented, or chartered to another for latter's noncommercial use; or engaged in the carrying of six or fewer passengers for hire. "Use" means—operate, navigate, or employ.

Termination for correction of an especially hazardous condition does not apply to: (1) Foreign vessels temporarily using waters subject to U.S. jurisdiction; (2) military or public vessels of the United States, except recreational-type public vessels; (3) a vessel whose owner is a State or subdivision thereof which is used principally for governmental purposes, and which is clearly identifiable as such; (4) ship's lifeboats.

CONCLUSION

A vessel master has historically been identified as a self-reliant entity with the obligation imposed by law and regulation to determine his position and safe course. He cannot transfer that responsibility to others. This responsibility and its traditional interpretation have resulted in a conservative approach towards development of "active" navigational aids such as harbor advisory radar. Notwithstanding this traditional, conservative stand there is a growing awareness on the part of the maritime community that some form of shorebased vessel traffic control is a necessity in heavily congested ports and waterways.

The early vessel traffic systems in Hamburg and Rotterdam were based primarily on economic considerations with safety of life and property secondary. In other words, the need to meet economic competition by facilitating the movement of more and more marine traffic in and out of port was the motivating factor. As has been fully demonstrated by obvious activity, both legislative and otherwise, protection of the environment is now an equally strong motivating force, especially in the United States. In both San Francisco and the Puget Sound areas we have formed active working committees, made up of all interested parties, to consider local needs. The port authority, and other members of the marine industry in New York, are working with the Coast Guard to plan, develop, and manage a vessel traffic system for New York Harbor and its approaches. We will follow this approach fully as we consider the needs of other ports and waterways in the future.

Shore-based assistance to marine transportation has been used since the first vessel put to sea. But, the state of the art has advanced considerably beyond the days of semaphore. The Coast Guard will continue to plan, develop, and implement modern systems wherever the need exists.

Finally, I want to emphasize that with all of the sophisticated marine navigational aids now in existence, and being developed for the future, we still require the wisdom of human judgment to make correct decisions.

AMENDMENTS TO REGULATIONS

Title 46 Changes

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of Transportation

SUBCHAPTER B-MERCHANT MARINE OFFICERS AND SEAMEN

PART 12—CERTIFICATION OF SEAMEN

General Requirements for Certification

The purpose of these amendments to the merchant marine officers and seamen regulations is to:

(1) Require an applicant for a merchant mariner's document to impress his thumbprint and sign the document at the time he makes application;

(2) Use the scaman's social security number as his official identification number for record purposes; and

(3) Describe current Coast Guard practices.

These amendments were proposed in a notice of proposed rule making (CGFR 72-25) published in the Federal Register on February 12, 1972 (37 F.R. 3190).

That notice fully described the present requirements and the reasons for the amendments. Interested persons were given an opportunity to participate in the rule making procedure. No comments were received on the proposal. The amendment is adopted as proposed.

In consideration of the foregoing, Subpart 12.02 of Title 46, Code of Federal Regulations is amended as follows:

1. By amending § 12.02-17(a) by striking the words "any person for a certificate of service or efficiency, or" and inserting the words "a person for a" in place thereof.

2. By revising § 12.02-17 (c) and (d) and revoking (e) to read as follows:

§ 12.02—17 Rules for the preparation and issuance of documents.

* * * * * (c) When a seaman applies for a

merchant mariner's document, he must—

(1) Sign the document; and

(2) Impress his left thumbprint on the document; or

(3) Impress his right thumbprint on the document if his left thumb is missing.

(d) A seaman's social security number is placed on his document and is his official identification number for record purposes.

(e) [Revoked]

* * * * *

§ 12.02-23 [Amended]

3. By amending § 12.02-23(a) by striking in the first sentence the following words—

a. "certificate of identification, or"; and

b. "representing a certificate of identification".

4. By amending § 12.02-23(b) by-

a. Striking the words "representing a certificate of identification";

b. Striking the words "or a duplicate" and inserting the words, "should he want one" in place thereof; and

c. Striking "1.25-65", and inserting "1.25-40" in place thereof.

5. By amending § 12.02–23 by revising paragraphs (d) and (e) to read as follows:

(d) Each person issued a document described in § 12.02-5, shall report to an Officer in Charge, Marine Inspection, its loss.

(e) If a seaman's document or service record is missing, he may obtain a duplicate by following the procedures in paragraph (c) of this section and by—

(1) Signing an affidavit before the Officer in Charge, Marine Inspection, or his designated representative, that explains the loss of his document or service record; and (2) Submitting at least two photographs for each duplicate document.

6. By amending § 12.02-23(f) by striking the following words:

a. "of a certificate of service, certificate of efficiency, certificate of identification, continuous discharge book, or"; and

b. "with respect to proof that he is lawfully admitted to the United States for permanent residence".

(R.S. 4405, amended, R.S. 4462, as amended, sec. 6(b)(1), 80 Stat. 937; 46 U.S.C. 375, 416, 49 U.S.C. 1655(b)(1); 49 CFR 1.46(b))

Effective date. These regulations shall become effective on June 30, 1972.

Dated: May 24, 1972.

C. R. BENDER, Admiral, U.S. Coast Guard, Commandant.

(Federal Register of May 31, 1972)

Title 33 Changes

Title 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of Transportation

SUBCHAPTER C-AIDS TO NAVIGATION

PART 72-MARINE INFORMATION

Notice to Mariners

The purpose of these amendments is to change the marine information regulations to conform to present practices.

The marine information regulations describe the various publications that the Coast Guard uses to provide information for mariners that pertains to the safety of navigation. These amendments include the following changes to the regulations to conform to present practices. (a) Changing § 72.01–10 and revoking § 72.01–20 to reflect that the "Notice to Mariners" has replaced the two-part "Weekly Notice to Mariners" (Part I, Atlantic and Mediterranean; Part II, Pacific and Indian Oceans); (b) changing § 72.01–15 to reflect that the correct title for the Great Lakes edition of the "Notice to Mariners" is "Notice to Mariners Relating to the Great Lakes and Tributary Waters West of Montreal"; and (c) changing the notice to mariners regulations to reflect the current names of various Federal agencies.

Since these regulations are descriptions of publications that the Coast Guard uses to inform the public and relate to agency practice, they are exempted from public rule making procedures. Since these regulations impose no burden on any person, it is hereby found that they can be made effective in less than 30 days.

In consideration of the foregoing, Part 72 of Title 33 Code of Federal Regulations is amended as follows:

1. By revising the authority citation of Part 72 to read as follows:

AUTHORITY: The provisions of this Part 72 issued under sections 92, 93, and 633, 63 Stat. 495, 503, 504, 545, sec. 6(b) (1), 80 Stat. 937; 14 U.S.C. 92, 93, 633, 49 U.S.C. 1655(b)(1); 49 CFR 1.46.

2. By revising § 72.01-1 to read as follows:

§ 72.01-1 Purpose.

The Coast Guard issues information concerning the establishment of aids to maritime navigation and the changes, discontinuances, and deficiencies, except temporary deficiencies that are easily correctable, of aids to maritime navigation maintained and operated by or under the authority of the Coast Guard in documents and marine broadcasts having the general title of "Notice to Mariners." This subpart describes the publications and the marine broadcasts.

3. By revising § 72.01-5 to read as follows:

§ 72.01-5 Local Notice to Mariners.

(a) "Local Notice to Mariners" reports changes to and deficiencies in

aids to navigation that are established or maintained and operated by or under the authority of the Coast Guard, and any other information pertaining to the waterways within each Coast Guard district that is of interest to the mariner.

(h) "Local Notice to Mariners" is published and issued weekly by each Coast Guard district or more often if there is a need to notify mariners of local waterway information.

(c) Any person may apply to the local Coast Guard District Office to be placed on the mailing list for the "Local Notice to Mariners." The "Local Notice to Mariners" is mailed to the public free of charge.

4. By revising § 72.01–10 to read as follows:

§ 72.01-10 Notice to Mariners.

(a) "Notice to Mariners" is intended to advise mariners of new hydrographic discoveries, changes in channels and navigational aids, and information concerning the safety of navigation. "Notice to Mariners" also contains information—

(1) Useful in updating the latest editions of charts and publications of the U.S. Naval Oceanographic Office, National Ocean Survey, and Coast Guard;

(2) Selected from the "Local Notice to Mariners" issued and published by the 1st, 3d, 5th, 7th, 8th, 11th, 12th, 13th, 14th, and 17th Coast Guard Districts; and

(3) Compiled from forcign notices to mariners, ship reports, and similar cooperating observer reports.

(h) "Notice to Mariners" is published weekly by the U.S. Naval Oceanographic Office. The "Notice to Mariners" is prepared by the—

(1) Coast Guard;

(2) National Ocean Survey; and

(3) U.S. Naval Oceanographic Office.

(c) Any person may apply to the Commander, U.S. Naval Oceanographic Office, Washington, D.C. 20390, to be placed on the mailing list for the "Notice to Mariners." The "Notice to Mariners" is mailed to the public free of charge.

5. By revising § 72.01–15 to read as follows:

§ 72.01–15 Notice to Mariners Relating to the Great Lakes and Tributary Waters West of Montreal.

(a) "Notice to Mariners Relating to the Great Lakes and Tributary Waters West of Montreal" contains information on changes in aids to navigation and similar information concerning the safety of navigation of vessels on the waters of the Great Lakes and its tributaries west of Montreal. The information contained in "Notice to Mariners Relating to the Great Lakes and Tributary Waters West of Montreal" concerns changes of a permanent nature to be used in correcting a chart, Light List, Great Lakes Pilot, or publication containing similar information.

(b) "Notice to Mariners Relating to the Great Lakes and Tributary Waters West of Montreal" is published and issued weekly by the 9th Coast Guard District.

(c) Any person may apply to the Commander, 9th Coast Guard District, Cleveland, Ohio 44199, to be placed on the mailing list for the "Notice to Mariners Relating to the Great Lakes and Tributary Waters West of Montreal." The "Notice to Mariners Relating to the Great Lakes and Tributary Waters West of Montreal" is mailed to the public free of charge.

§ 72.01-20 [Revoked]

6. By revoking § 72.01-20.

7. By revising § 72.01-25 to read as follows:

§ 72.01–25 Marine Broadcast Notice to Mariners.

The Coast Guard broadcasts notices to mariners on its own or U.S. Navy radio stations to report navigational warnings containing ioformation of importance to the safety of the navigation of vessels, such as the position of ice and derelicts, defects, and chaoges to aids to navigatioo, and drifting mines. Radio stations broadcasting marine information are listed in "Radio Navigational Aids" (Naval Occanographic Office publications numbered 117A and 117B). Any person may purchase "Radio Navigational Aids" from—

(a) A local Naval Branch Oceanographic office for over-the-counter purchases;

(b) The Naval Oceanographic Office, Washington, D.C. 20390 for purchases by mail; or

(c) A Naval Oceanographic Distribution Center located at—

(1) Clearfield, Utah 84016 for mail order purchasers located west of the Mississippi River (except Gulf of Mexico and the Canal Zone area); or

(2) 5801 Tabor Avenue, Philadelphia, Pa. 19120 for all other mail order purchasers.

8. By revising § 72.01-40 to read as follows:

§ 72.01-40 Single copies.

Single copies of the "Notice to Mariners" described in § 72.01-10 may be obtained or consulted at—

(a) Coast Guard District Commanders' Offices;

(b) National Ocean Survey District Field Offices;

(c) Naval Branch Oceanographic Offices; and

(d) Custom Houses.

9. By revising § 72.05-5 to read as follows:

§ 72.05-5 Sales agencies.

Each volume of the "Light List" is for sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, and through sales agents whose names are published in issue No. 13 of "Notice to Mariners" described in § 72.01–10. Notification of publication of a new edition of the "Light List" is published in the "Notice to Mariners" for the particular area that is covered as soon as the edition is available for distribution.

(Secs. 92, 93, 633, 63 Stat. 495, 503, 504, 545; sec. 6(b)(1), 80 Stat. 937; 14 U.S.C. 92, 93, 633, 49 U.S.C. 1655(b)(1); 49 CFR 1.46)

Effective date. These amendments

Dated: May 23, 1972.

C. R. BENDER, Admiral, U.S. Coast Guard Commandant.

(Federal Register of May 26, 1972)

Approved Equipment

Commandant Issues Equipment Approvals; Terminates Others

U.S. Coast Guard approval was granted to certain items of lifesaving, and other miscellaneous equipment and materials. At the same time the Coast Guard terminated certain items of lifesaving, and other miscellaneous equipment and materials.

Those interested in these approvals and terminations should consult the Federal Registers of April 4 and 28, and May 10 and 17, 1972, for detailed itemization and identification.

AFFIDAVITS

The following affidavits have recently been accepted:

American Boa, Inc.,* 114 Liberty Street, New York, N.Y. 10006, FIT-TINCS. *Bellows expansion joints, 15 psi maximum.

W-K-M Division, ACF Industries, P.O. Box 2117, Houston, Tex. 77001, VALVES, FITTINGS (already listed for fittings).

United Brass Works, Inc., Randleman, N.C. 27317, VALVES, FITTINGS.

Tate Temco, Inc., 1205 South Carey Street, Baltimore, Md. 21230, VALVES, FITTINGS. The following affidavited companies have new addresses as follows:

Jamesbury Corp.,* 640 Lincoln Street, Worcester, Mass. 01605, VALVES. *Includes wafer-sphere butterfly valves that are suitable for category A applications.

Leslie Co., 399 Jefferson Road, Parsippany, N.J. 07054, VALVES, FITTINGS.

Anderson IBEC, 19699 Progress Drive, Strongsville, Ohio 44136, FIT-TINGS.

Anchor Valve Co., 24747 Clawiter Road, Hayward, Calif. 94545, VALVES.

The following affidavits are removed due to name changes above and terminations:

Tate Engineering, Inc., Baltimore, Md.

Zurn Industries, Inc., Erie, Pa.

Fluid Controls, Inc., Mentor, Ohio. Black, Sivalls & Bryson, Inc., Tulsa, Okla.

The following footnotes are amended:

Number 27 is removed.

Number 37, add 16-inch size to list of acceptable Doc Dapters.

FUSIBLE PLUGS

The regulations prescribed in "Subpart 162.014, Subchapter Q Specifications," require that manufacturers submit samples from each heat of fusible plugs for test, prior to plugs manufactured from the heat being used aboard vessels subject to inspection by the U.S. Coast Guard. A list of approved heats which have been tested and found acceptable is as follows:

The Lunkenheimer Co., Cincinnati, Ohio 45214. Heat Nos. 780, 781, 782, 783, 784, 785, and 787.

ACCEPTABLE HYDRAULIC COMPONENTS

Manufacturer	Valve type	Identity	Maximum allowable working pressure
Kemp Industries, Marshall Hill Road, West Millord,	4-way	K403035	1,000
Do	4-way	K403037	1,000

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 Sunday, Monday, and days following 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 January 1, 1972 are now available from the Superintendent of Documents price: \$3.75.

CG No.

TITLE OF PUBLICATION

- 101 Specimen Examination for Merchant Marine Deck Officers (7-1-63).
- 108 Rules and Regulations for Military Explosives and Hazardous Munitions (5-1-68). F.R. 6-7-68, 2-12-69, 10-29-69, 12-30-70, 3-20-71.
- 115 Marine Engineering Regulations (7-1-70) F.R. 12-30-70, 3-25-72.
- 123 Rules and Regulations for Tank Vessels (5-1-69) F.R. 10-29-69, 2-25-70, 6-17-70, 10-31-70, 12-30-70, 3-8-72, 3-9-72.
- 129 Proceedings of the Marine Safety Council (Monthly).
- Rules of the Road—International—Inland (9–1–65). F.R. 12–8–65, 12–22–65, 2–5–66, 3–15–66, 7–30–66, 8–2–66, 9–7–66, 10–22–66, 5–11–67, 12–23–67, 6–4–68, 10–29–69, 11–29–69, 4–3–71, 3–15–72. 169
- 172 Rules of the Road-Great Lakes (9-1-66). F.R. 2-18-67, 7-4-69, 8-4-70, 3-15-72.
- 174 A Manual for the Safe Handling of Inflammable and Combustible Liquids (3-2-64).
- 175 Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3-1-65).
- 176 Load Line Regulations (2-1-71) F.R. 10-1-71.
- 182 Specimen Examinations for Merchant Marine Engineer Licenses (7-1-63).
- 184 Rules of the Road—Western Rivers (9–1–66). F.R. 9–7–66, 2–18–67, 5–11–67, 12–23–67, 6–4–68, 11–29–69, 4-3-71, 3-15-72.
- 190 Equipment Lists (8-1-70). F.R. 8-15-70, 9-29-70, 9-24-71, 9-30-71, 10-7-71, 10-14-71, 10-19-71, 10-30-71, 11-3-71, 11-6-71, 11-10-71, 11-23-71, 12-2-71, 1-13-72, 1-20-72, 2-4-72, 2-19-72, 3-3-72, 3-9-72, 3-14-72, 4-4-72, 4-28-72, 5-10-72, 5-17-72.
- 191 Rules and Regulations for Licensing and Certificating of Merchant Marine Personnel (5–1–68). F.R. 11–28–68, 4-30-70, 6-17-70, 12-30-70, 6-17-71, 12-8-71, 5-31-72.
- Marine Investigation Regulations and Suspension and Revocation Proceedings (5-1-67). F.R. 3-30-68, 4-30-70, 200 10-20-70.
- 220 Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels (4–1–57).
- 227 Laws Governing Marine Inspection (3-1-65).
- Security of Vessels and Waterfront Facilities (5-1-68). F.R. 10-29-69, 5-15-70, 9-11-70, 1-20-71, 4-1-71, 239 8-24-71, 2-15-72.
- 749 Marine Safety Council Public Hearing Agenda (Annually).
- Rules and Regulations for Passenger Vessels (5-1-69). F.R. 10-29-69, 2-25-70, 4-30-70, 6-17-70, 10-31-70, 256 12-30-70, 3-9-72.
- 257 Rules and Regulations for Cargo and Miscellaneous Vessels (8-1-69). F.R. 10-29-69, 2-25-70, 4-22-70, 4-30-70, 6-17-70, 10-31-70, 12-30-70, 9-30-71, 3-9-72.
- 258 Rules and Regulations for Uninspected Vessels (5-1-70). 259
- Electrical Engineering Regulations (6-1-71). F.R. 3-8-72, 3-9-72. 266
- Rules and Regulations for Bulk Grain Cargoes (5-1-68). F.R. 12-4-69. 268 Rules and Regulations for Manning of Vessels (10–1–71). F.R. 1–13–72
- 293
- Miscellaneous Electrical Equipment List (9-3-68).
- 320 Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf {11–3-68), F.R. 12-17-68, 10-29-69, 1-20-71, 8-24-71, 10-7-71,
- 323 Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (12–1–71) F.R. 3–8–72, 3–25–72,
- 329 Fire Fighting Manual for Tank Vessels (7–1–68).

CHANGES PUBLISHED DURING APRIL, MAY 1972

The following have been modified by Federal Registers:

CG-190, Federal Register of April 4 and 28, May 10 and 17, 1972

CG-191, Federal Register of May 31, 1972

