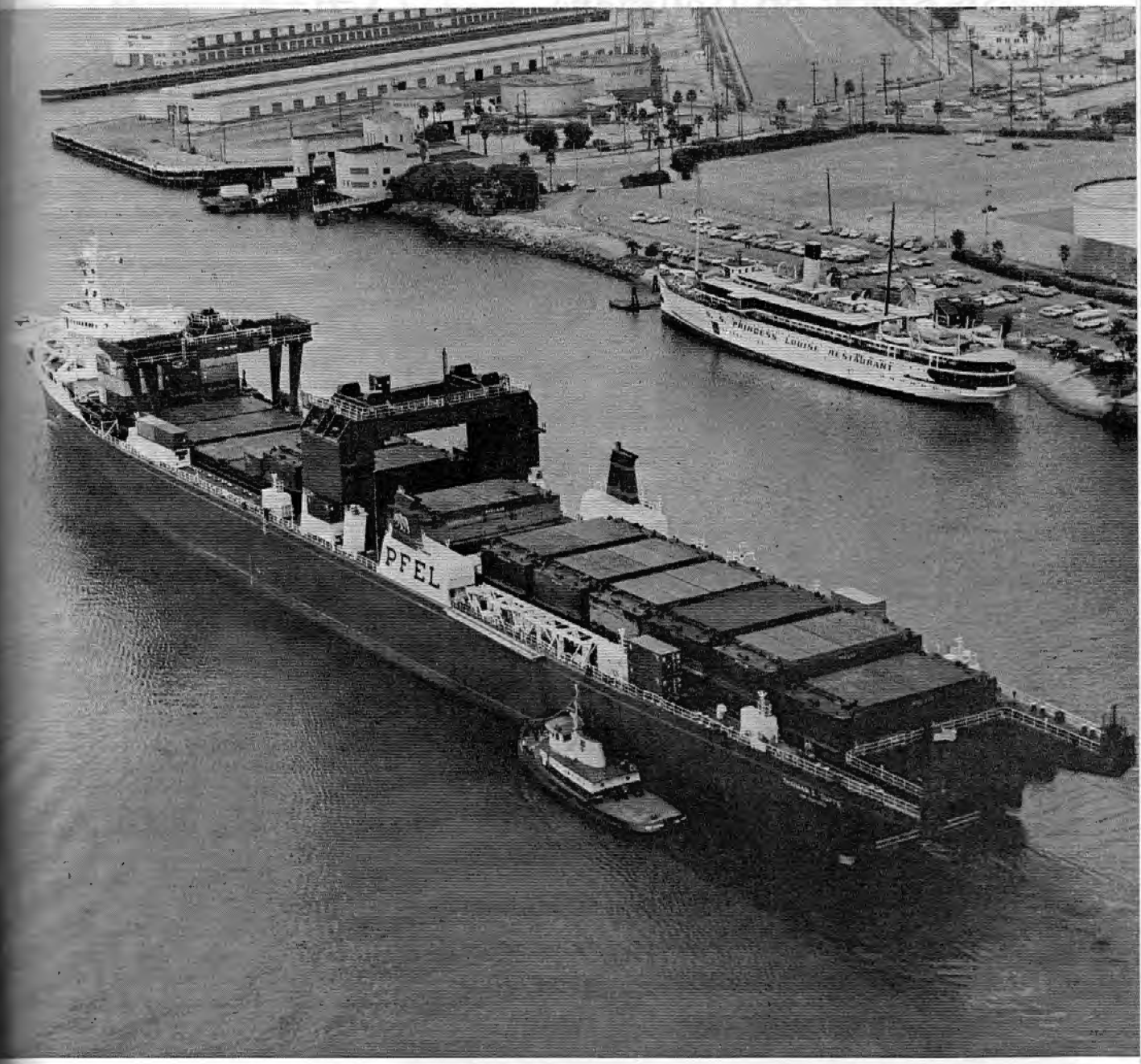
PROCEEDINGS
OF THE MARINE SAFETY COUNCIL



DEPARTMENT OF TRANSPORTATION UNITED STATES COAST GUARD

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IN THIS ISSUE . . .

Fire Above—Water Below NTSB Study on Collisions in U.S. Waters

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

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DEPARTMENTS

COVERS

Lighter Aboard Ship (LASH) vessels seem to be the new wave among U.S. Flag ships. Two LASH vessels are features on this month's covers.

FRONT COVER: Pacific Far East Lines' *Thomas E. Cuffe* is shown carrying its 61-foot cargo barges into the Port of Los Angeles. The LASH concept allows the receiving and unloading of goods at hard-to-reach markets on rivers and in less developed harbors of the world. *Courtesy Port of Los Angeles*

BACK COVER: Prudential Lines' new *Lash Atlantico* slides down the ways into the Mississippi River at Avondale Shipyards' main yard. *Courtesy Avondale Shipyards, Inc.*

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PROCEEDINGS

OF THE

MARINE SAFETY COUNCIL

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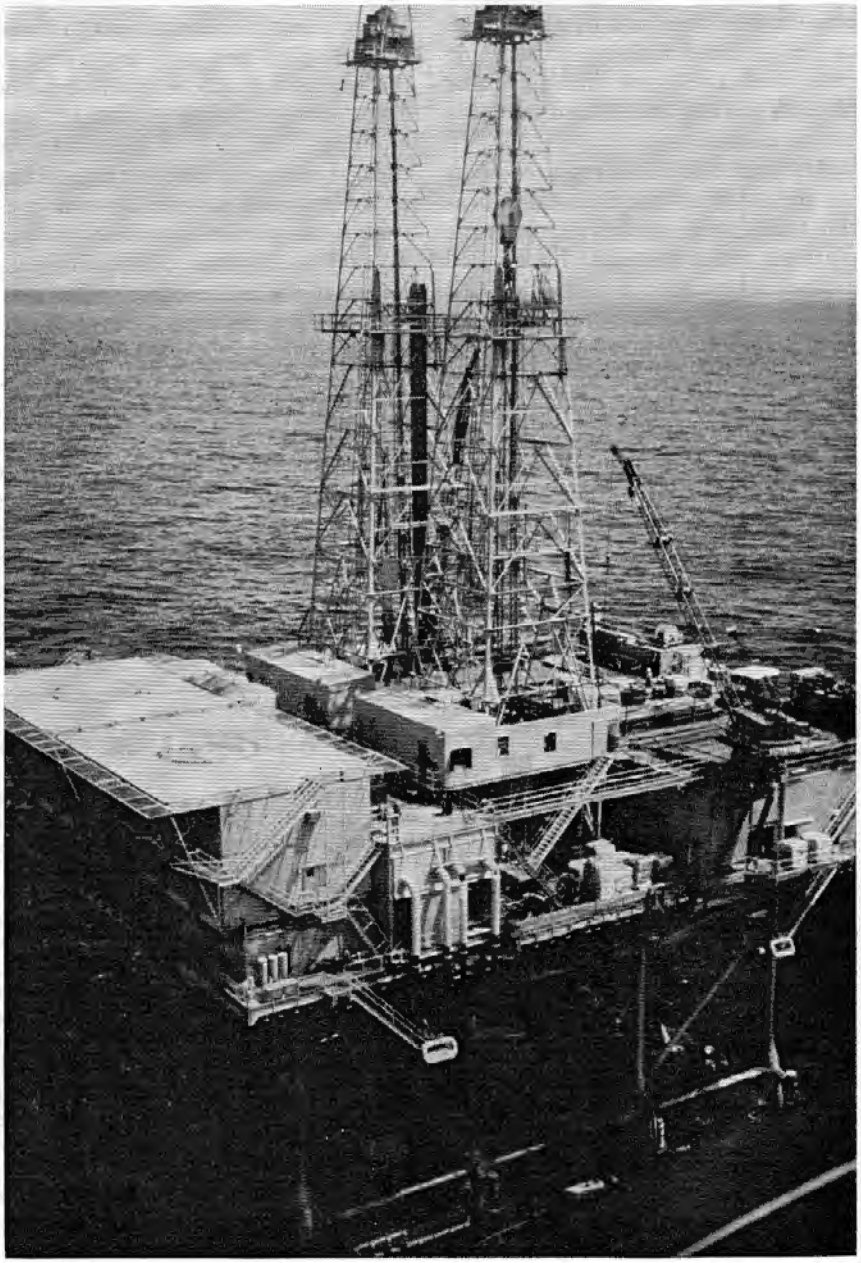
FIRE ABOVE—WATER BELOW

IT IS AXIOMATIC that fire is the most dangerous and terrifying of the perils encountered at sea. That commonplace, coupled with the volatility of thousands of barrels of oil and millions of cubic feet of natural gas, necessitates extraordinary care and safety precautions when men are working "at sea" on a manned offshore oil platform. Yet despite compliance with existing safety standards, Shell Oil Company's manned Platform B, Timbalier Area, 10 miles off the coast of Louisiana was wracked in December of 1970 by a blow out and explosions that killed four men and severely injured 15 others.

On December 1, 1970, 61 men, representing seven different companies were employed on the fixed platform located in 55 feet of water 65 miles south of New Orleans. At the time of the disaster, Platform B was producing approximately 15,000 barrels of oil and 40 million cubic feet of gas per day. Ten days before the casualty, Well B–21 had been extended to a depth of 12,200 feet and preparations were being carried out to begin production. Although trouble was encountered in the cleaning and preparing process, the difficulties were neither uncommon nor considered of a serious nature; a local firm had been contracted to complete wireline operations to prepare the well for efficient pumping. Wireline operations involve running a tool attached to a wireline down the well to clean out foreign material deposited in the well during drilling operations or any other material introduced into the well that would impede the flow of oil.

At 6:00 on the morning of the casualty, wireline operations were begun to clear the new well of plastic



This photograph of the platform, taken before the casualty, gives an indication of the fixed stairways leading to the liferafts and continuing to the water. The living quarters, from which a majority of the men jumped, are located beneath the helicopter deck to the left in the photo.

coating that had flaked off the drill tubing. The work, conducted on the wellhead deck, was suspended at 9:15 because the amount of foreign material in the well was too great for the equipment the contractors had brought. Well B–21 was secured in the prescribed fashion, and a lubricator—a 20 foot long pipe used in the wireline operation—was left suspended over the Christmas tree by a block and tackle. At 9:45 a floorman working near Well B–21 saw the lubricator blow off the well and oil and gas spray out of the well.

Although a few men reported hearing an "air leak," the first real indication that something was wrong on the platform was the sound of a muffled explosion, described as sounding like a dynamite blast, which rocked the platform and living quarters. A driller reported that he heard something hit the bottom of the rig floor which sounded like "iron hitting iron." Immediately after this first explosion, the men could hear air rushing out of an opening with an intensity reported to be similar to the sound of a jet plane taking off.

Records indicate that the crew on Platform B were both familiar with and drilled in the emergency measures to take in the event of an occurrence such as the blowout of Well B–21. Fire fighting equipment on board the platform was in compliance with applicable regulations (Title 33 CFR 145). During any emergency drill, the men were first required to don their life preservers and then go to their stations. The men were instructed in the use and location of the general alarm system, and the platform was equipped with valves which, when tripped, activated blowout preventers on the production wells. Blowout preventers are devices designed to shut in the wells, thus prohibiting the spread of the fire to other wells.

As the general alarm was sounded, at least three men pulled levers at remote stations to shut in the production wells. Immediately after the floorman first saw the gas spraying from the well, men working on rigs in the area of Well B–21 saw a fine oil mist rising about 15 feet above the floor around the well. Approximately 2 or 3 minutes after the mist was sighted, the oil ignited with an explosion described as sounding "similar to throwing a lighted match on gasoline, only 100 times louder." The source of ignition is unknown. Electric motors in the drilling and production areas were reported to be explosion proof. The exhausts for the internal combustion engines were reportedly equipped with spark arrestors, were insulated, and were piped downward over the side. The fire was reported to have started below the rig floor in the area of pumps or generators, and one man reported that he "saw a generator" on fire.

Although several men started to investigate the source of the blowout, the remainder started abandoning the platform by the fixed stairways and approximately 6 knotted manropes that led to the sea, between 60 and 100 feet below the various decks. As the flames and fumes engulfed the working decks, however, the stairways became inaccessible and the men raced to the manropes. At the time of the first explosion nearly half the crew were near the living quarters and the two manropes in that im-

OPERATIONS AND SAFETY ON PLATFORM B

Shell Oil Co. manned Platform B is composed of two separate parts: the platform itself and drilling rigs mounted on the platform. Its construction was conducted in 55 feet of water, and the platform was erected by floating three separate sections in the Gulf and joining them on location. Twelve pilings driven into the sea bed support the two decks above the waterline; the cellar deck and the top deck rise 51 and 65 feet out of the water, respectively.

Two identifical, but independent, drilling rigs were located on the platform, each completely self-contained and consisting of various modules for living quarters, power supply, drilling equipment, and maintenance. Each rig had two major levels: the rig floor, about 95 feet above the water; and the blowout preventor deck, which was coterminous to the top deck. (See photo page 147.)

At the time of the casualty, the rigs were in the process of drilling two wells. Twenty-one dual completion wells and one single-completion well had already been tapped. (A dual-completion well involves drilling only one well, hut producing oil or gas from two separate zones through two pipes in the single well.) One slot had been "junked" and 11 slots remained undrilled out of the 36 slots on the platform. Because there was not enough room on the platform for the production equipment necessary for the testing and separation of the gas and crude oil prior to pumping ashore, all the crude oil and gas was piped to Platform A, located 5,000 feet away. On platform A the crude oil and gas were separated and made ready for transfer to shore.

The platform was equipped with suitable guards and rails along the perimeter of the various levels required by applicable regulations (33 CFR 143.15). The "primary means of escape" consisted of about 10 fixed stairways leading from the rig floor area to the perimeter of the blowout preventor deck below. From the blowout preventor deck three fixed stairways led to the wellhead deck, with two fixed stairways continuing on to the boat landings at the waterline. The "secondary means of escape" consisted of approximately 6 knotted manila manropes which extended from the bottom of the blowout preventor deck to the waterline.

Based upon an inspector's report and information received from Shell Oil Co., the following lifesaving appliances were on board the platform: seven life floats, seven ring buoys, and at least 80 Coast Guard approved life preservers. Fire fighting equipment and drill records were also in compliance with applicable regulations (33 CFR 144.01).

mediate area were heavily congested. Subsequent explosions (the concussion of one knocking a crewmember 10 feet down a passageway), forced most of the men to jump to safety, however, and only nine men actually used the ropes as a means of escape. All of these nine were either blown off the rope by explosions, knocked off by falling bodies, or forced to drop off at various heights because of the flames or rope burns to their hands.

Most of the men jumped from heights of 80 feet or above. One survivor who was spending his first day working on a platform, dived head first from the helicopter deck, 102 feet above the water, with a hard hat on and suffered a cracked vertebra. Several of the crew had their lifejackets torn off by the impact of meeting the water. One man, dazed by the flames and force of the first explosion, jumped 90 feet without a life preserver and shared a life ring with another survivor. After helping the other man onto the pontoon of the rescue helicopter, he then placed the life ring over his own head and was pulled aboard. He suffered a broken vertebra and second degree burns. Another survivor, declaring that the fire "came too fast and there

MEANS USED TO ESCAPE PLATFORM B, DEC. 1, 1970

Company	Men's locations at time of blowout			Method of escape used			Life preserver used?	Seriously injured?
	Quarters	Rig floor	Other	Jumped	Manrope	Other		
Shell Oil Co.			X			X [1]	Yes	No
	X			X			Yes	Yes
	X			X			No	Yes
	X			X			No	No
Storm Drilling Co.		X		X			Yes	Deceased
			X	X			No [2]	Deceased
		X					Yes	Deceased
		X				X [1]	No	Deceased
	X			X			Yes	Yes
	X			X			Yes	Yes
	X			X			Yes	Yes
			X	X			Yes	Yes
		X		X			Yes	Yes
		X		X			Yes	Yes
		X			X [2]		No [4]	Yes
			X	X			No [3]	Yes
			X	X			No [5]	Yes
	X			X			Yes	Yes
				X [6]				Yes
	X			X			Yes	Yes
								No
								No
		X			X [7]		Yes	No
	X			X			Yes	No
		X		X			Yes	No
		X		X			Yes	No
			X	X			Yes	No
						X [3]	Yes	No
	X			X			Yes	No
	X			X			Yes	No
				X			Yes	No
		X			X [7]		Yes	No
	X			X			Yes	No
								No
					X [8]			No
		X		X [5]				No
			X	X			Yes	No
	X			X			Yes	No
								No
	X				X [7]		Yes	No
	X			X			Yes	No
		X		X			Yes	No
	X					X [1]	Yes	No
		X			X [7]		Yes	No
	X			X			Yes	No
			X [8]	NA	NA	NA	NA	No
	X				X [7]		Yes	No
			X [6]	NA	NA	NA	NA	No
		X				X [1]	No	No
	X			X			Yes	No
							Yes	No
Smith & Wallender	X			X		X [1]	Yes	No
	X			X			Yes [6]	Yes
IMC Drilling Mud Co.			X		X [7]		Yes	No
	X			X			Yes	No
National Supply	X				X [7]		Yes	No
	X			X			Yes	Yes
Halliburton Directional drilling	X						Yes	No
Totals	27	14	10	39	9	6	53	20

[1] Walked downstairs.
[2] Life perservers blown off by explosion.
[3] Man blown off by explosion.
[4] Held onto life ring with other man.
[5] Used a life ring.
[6] Probable.
[7] Fell off.
[8] On vessel *Van Tide*.

were not enough manropes for the men," jumped from 80 feet and was knocked unconscious as he hit the water. He was picked up after being in the water an undetermined amount of time. A 60-year old cook was one of the five men who were able to walk down the stairs before they became impassible. He looked over the side of the platform, decided he would not survive a jump, then walked down the stairway amid the smoke and flames. He received only minor burns.

Rescue operations were begun immediately. The M/V *Van Tide*, tied up at Platform B and M/V *Adam David*, a standby boat at Platform A, rescued most of the men from the water. Several other unidentified vessels and helicopters from Petroleum Helicopters, Inc., and Continental Oil landed on the water to pick up other survivors. Several Coast Guard helicopters, which were initially used to evacuate the injured to hospitals, were dispatched to the scene. All the survivors or bodies, except one, were either rescued or recovered from the water in less than an hour.

Significantly, only one of the four fatalities died as a direct result of the flames. Two men who died of drowning (and with no evidence of trauma) were found face down in the water with their life jackets jarred high over their shoulders. A floorman, his life jacket ripped from his body by the force of an explosion, jumped from a height of 80 feet and was seen swimming toward one of the rescue boats. His body was recovered a week later.

As indicated by the included table, all but a few of the men on Platform B that day were wearing Coast Guard approved life preservers, yet all but a few were unable to effectively use them or the provided means of evacuation. In interviews after the disaster, the men indicated that the following improvements could be made to avert similar tragedies:

1. That some sort of chute similar to airplane evacuation chutes be used for escape.
2. That a form of fireman pole be used instead of manropes.
3. That a shield be built near the manropes to protect the men from the fire and explosions.
4. That a fire wall be built around the entire wellhead area on the platform.
5. That a sprinkler system be installed around the wellhead area on the platform.
6. That the stairways be enclosed with a fire retardant material.
7. That the quarters be built on a separate platform with access provided to the drilling platform by a catwalk.
8. That a cable be strung at an angle from the platform to the water enabling the men to escape from the platform by riding down the cable using individual trolleys.

The Coast Guard investigating officer concluded that the proximate cause of this casualty was the blowout of Well B–21. The reason for the blowout itself has not been conclusively determined, though a jammed master valve is suspected, according to preliminary findings by the U.S. Geological Survey. The investigator concluded that the prompt sounding of the general alarm, the fact that most of the men were wearing life preservers, and the previous instruction of the men through emergency drills were significant factors in preventing greater loss of life in this casualty.

Since most of the injuries to men on Platform B were the result not of the fire itself, but of the men's jumping from excessive heights, the investigating officer concluded that the most promising means to reduce injuries and deaths in future casualties of a similar type is the development of safer, more rapid means of escape. ⚓

WHY WEAR HARD HATS?

HEAD PROTECTION

Despite the fact that most head injuries are serious, there are a few workers who seem reluctant to wear hard hats.

Everyone should take advantage of such valuable protection as the hard hat. Men give various reasons for refusing to wear these hats. Here are some of the common objections and the reasons they do not hold true:

TOO HEAVY

Hard hats are a few ounces heavier than conventional headgear, but the extra protection is worth the extra weight. Actually, a hard hat is less than one-third the weight of any army helmet and liner.

TOO HOT

On a hot summer day with the temperature above 100, it may not be as comfortable as you'd like it to be, but it would still be 3 to 9 degrees cooler than inside an ordinary hat.

TOO COLD

Could be, but the problem is solved by wearing a winter liner. It'll keep head, neck and ears warm without lessening the protective value.

CAUSE HEADACHES

There's no medical reason why properly adjusted hard hats would bring these complaints. More than likely there's another reason such as hunger, thirst or eyestrain.

WON'T STAY ON

In a high wind, you'll need a chin strap on your hard hat. Normally, however, that hat will stay on despite a lot of stooping and bending you may do in your work.

NOISY

Not at all. In fact, tests show that properly worn hard hats have a shielding effect on the wearer's ears. Noises are not intensified by the hat. ⚓

—National Safety Council

COLLISIONS WITHIN THE NAVIGABLE WATERS OF THE UNITED STATES— CONSIDERATION OF ALTERNATIVE PREVENTIVE MEASURES

The National Transportation Safety Board (NTSB) has recently released "A Special Study of Collisions Within the Navigable Waters of the United States—Consideration of Alternative Preventive Measures" which was adopted by the NTSB on February 2, 1972. Some excerpts from the study—specifically its purpose, conclusions, summary and recommendations—are reprinted below. The full text of the study is available from: Publications Section, National Transportation Safety Board, Washington, D.C. 20591.

PURPOSE

THE PURPOSE OF this study is to: provide an overview of the problem of collisions and their potentially hazardous results in the congested ports and waterways of the United States, discuss alternative solutions including a review of the collision avoidance systems currently in effect, and make recommendations concerning actions which would effectively reduce the number of these collisions.

CONCLUSIONS

A. General

1. The various aspects of the problem of collisions in the ports and waterways of the United States, the potential catastrophic results, losses incurred by the innocent bystander, and the large number of collisions which occur yearly, all dictate the need for action to preclude, curb, or at least reduce the occurrence of such casualties.

2. The concept of risk levels should be used when an evaluation of the need for further collision preventive measures is made.

3. In recent years, the magnitude of the potential loss in marine collisions has increased rapidly. These increases have been caused by the significant changes that have taken place in the field of marine transportation. Some of these changes are larger vessels, increases in both the quantities and number of types of dangerous and hazardous cargoes, and increased traffic densities.

4. There is a need for accumulation of casualty data on a local basis in order to help determine the need for a traffic control system for specific ports or waterways.

5. Personal error is most frequently cited as the probable cause of collisions. However, the underlying reasons for the error, the causal factors, are of greater importance when considering preventive action.

6. Review of causal factors indicates there is a need for providing more effective assistance and tools to the mariner to enable him to cope with the increasingly complex decisions he must make.

7. Multiple solutions to the problem of collisions are necessary. No one particular solution will work in every location. Full consideration must be given to the safety, economic, ecological, technical, social, and legislative aspects of the problem in order to determine the most feasible solution.

8. Many parties are involved in the collision avoidance problem. These include operators, mariners, pilots, shippers, port authorities, conservationists, legislators, regulatory agencies, and the general public. Reasonable consideration should be given to their individual interests.

9. A complete collision avoidance system should perform the following basic functions:

a. Position determination.
b. Vessel identification.
c. Surveillance.
d. Rapid data processing and prediction.
e. Communications.
f. Decisionmaking.

10. The essential operational requirements of the port or waterway must be defined and analyzed fully before the type of system and the equipment are selected.

11. Shore-based systems should be federally operated to insure as much uniformity as possible in the requirements placed upon the users of the system.

12. There is considerable public and Congressional interest in the problem of collision casualties. This interest is vital to insure passage of legislation such as the proposed Ports and Waterways Act of 1971 (H.R. 8140) and the necessary appropriations bills to provide the Coast Guard the authority, manpower, and funds to establish appropriate marine traffic control systems.

13. All knowledgeable and interested parties must assist the Coast Guard in obtaining the necessary data and information required to reach a reasonable decision as to the type of traffic control, if any, a port or waterway may need.

14. In order to achieve maximum effectiveness, mandatory participation in any system is necessary.

15. An effective vessel identification system is required. The use of transponders in developing an accurate and economically feasible vessel identification system should be pursued.

16. The rules of the road are in need of revision. The work of IMCO in preparing proposed revisions to the rules is of great importance to all maritime nations.

B. Shore-Based Systems

1. The United States has lagged behind other countries in developing, experimenting with, and evaluating shore-based collision avoidance systems.

2. Practically all of the current systems became fully operational only after extended periods of experimentation and evaluation. During the development of these systems, persons from many fields of expertise were consulted.

3. In the United States, the installation of systems identical to those already established in other countries' ports is not feasible. However, where similar conditions exist, similar solutions may be practical. By utilizing the experience and knowledge gained in the establishment of currently operational systems, the United States should be able to reduce significantly the experimental and developmental periods for establishment of similar types of systems in its own ports and waterways.

4. In those areas where accident statistics have been compiled, a noticeable reduction in the accident rate has occurred, subsequent to the installation of a traffic control system. Two examples are Rotterdam, where a 75 percent reduction has occurred and the St. Lawrence River, where there has been a 65 percent reduction.

5. Most of the shore-based systems are operated and funded by either the Federal, State, or local government. Most of them do not charge a direct user's fee.

6. If mandatory control by the shore station is considered necessary to insure the safe navigation of vessels, then the issues of potential legal liability and user reaction are of secondary importance.

7. The original primary objective of many of the systems was to prevent accidents during periods of reduced visibility. After the systems became operational, an additional benefit occurred, wherein the efficiency of traffic flow increased significantly, both during periods of reduced visibility and clear weather.

8. Success of a shore-based system is dependent upon a mutual understanding between the mariner and the shore operator. Both must have complete confidence in each other's ability to fulfill their responsibilities in the system.

9. Local knowledge and ship operations experience are prerequisites for the shore station operators.

10. Two common problems of shore-based systems are saturation of the VHF communications, and the overload of the shore operator or controller. Many of the systems resolve these two problems by dividing the area into sectors with a different frequency with one controller for each sector. Other solutions are: the use of two frequencies, one for calling, and the other for transmitting information; the inclusion of computers in the system to lighten the workload of the controller, and the use of digital data links.

11. Other problems which may arise are excessive sea and rain clutter, and a need for high bearing and range resolution.

C. Shipboard Systems

1. Currently, there are numerous shipboard collision avoidance systems under development and operational evaluation or both. The potential of these systems for preventing collisions is excellent.

2. A set of basic specifications should be developed to provide a means for evaluating the various systems and to establish minimum standards. The specifications suggested in this study could serve as a starting point in developing such a set of specifications.

3. Initial cost is a limiting factor. Those systems which include computers usually cost between $40,000 and $100,000. This becomes prohibitive for smaller or older vessels. However, for newer ships and larger ones such as supertankers, such systems appear to be economically feasible.

4. To achieve maximum effectiveness, all vessels should be equipped with a system. If all vessels do not have a system on board, then there will be less coverage provided than would exist if only shore-based systems were used.

5. There is a need for an accurate and reasonable method of determining own ship's speed. Current methods either are lacking in accuracy, such as the shaft revolution per minute method, or are very expensive, for example, doppler techniques.

D. Other Systems

1. Traffic separation schemes have proven to be effective in reducing collisions. Their potential should be fully exploited.

2. Development of a position-determining system which is highly accurate, reliable, continuously available, has a low user cost, and which can be established in restricted ports and waterways, should be encouraged.

3. The feasibility of offshore marine terminals should be given serious consideration.

SUMMARY

Although the problem has been stated and possible solutions have been discussed, the choice of a solution for a particular harbor or waterway should be accomplished by systematically analyzing the constraints, requirements, and nautical circumstances of that specific area. Some of the elements of a harbor and waterway operation which should be considered are the current and predicted future traffic conditions such as traffic density and traffic patterns, types of vessels encountered, natures of cargo carried, percentage of days when inclement weather is a factor, existing navigational restrictions, and potential station location for a shore-based system. Such a systematic approach is indicated in order to determine how a particular system will effectively solve the problem and to select the most economical system of those which are capable of solving the problem. It is recognized that justification of a system on a cost benefit basis only may be difficult or impossible. Currently, this type of data is not routinely collected and tabulated. Assembly of a data base should be one of the initial steps not only to determine the basic criteria for a system but also for use in future evaluation of the effectiveness of the selected system.

RECOMMENDATIONS

The National Transportation Safety Board recommends that:

1. Congress enact appropriate legislation such as the "Ports and Waterways Safety Act of 1971" (H.R. 8140) to provide the Coast Guard with statutory authority to establish traffic control systems, as needed, including mandatory control systems when appropriate, in the congested waters of the United States.

2. Congress authorize and appropriate sufficient funds and manpower for the Coast Guard to develop mandatory traffic control systems where appropriate under the authority of the previously mentioned legislation.

3. The Coast Guard:

a. Evaluate the conditions of marine traffic in each major port and waterway to determine what types of traffic control, if any, are needed.

b. Establish a priority list for establishment of traffic control systems in the congested ports and waterways of the United States.

c. Compile casualty data on a more localized basis than is currently done.

d. In addition to tabulating casualty data, obtain data pertaining to traffic density, traffic patterns, types of cargo moved and other pertinent data which will be useful in determining the need for traffic control in a particular port or waterway and for use in future evalaution of the effectiveness of installed systems.

4. The vessel operators, pilots associations, port authorities, and other interested and knowledgeable parties cooperate and assist the Coast Guard in determining the needs of each port or waterway.

5. The Coast Guard, Maritime Administration, organized labor, and maritime industry augment the collision avoidance training programs currently available, and utilize typical shipboard and shore-based systems in these programs.

6. The Radio Technical Commission for Marine Services Special Committee 65 continue its work on developing general standards or specifications for shipboard collision avoidance systems so that the standards may be used by the marine industry for evaluating the effectiveness of the various systems available or currently under development.

7. The Department of Commerce, Department of Transportation, and the electronics industry collaborate to develop:

a. A transponder-type identification system for use in the marine field.

b. An accurate and reasonable method for determining own ship's speed. ⚓

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 and will be selected and edited at the editor's discretion. Credit for published material will be given to the author, as appropriate, but unused items will not be returned. A brief 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

FIREFIGHTING IN SHIPS

The following article was submitted by Mr. J. Anderson, Fire Master of the South-Eastern Fire Brigade in Edinburgh, Scotland, in response to the article "Avoidable Fire Injures Three" in our March 1972 issue. Our thanks to Mr. Anderson for providing our readers with this insight into how another country handles the problems of minimizing the results of fires at sea.—Ed.

Of all fires, it is generally agreed by fire officers that those which take place on board ship are among the most difficult to combat.

Almost all ship fires are, in effect, basement fires and have to be approached from above through heat and smoke. As this type of fire is about the most difficult to be tackled by professional firefighters, how then must the Merchant Navy officer feel when confronted with a fire situation at sea who has no access to help from professional firefighters.

In an endeavour to assist the Merchant Navy officer to overcome this problem, training courses were arranged at my Brigade Training School.

In order to make a more realistic approach to such training, the South Eastern Fire Brigade, Scotland, with its headquarters in Edinburgh, decided to open a training school at McDonald Road Fire Station, with as its principal feature a ship/smoke chamber.

The local shipbuilding company of Henry Robb Ltd. was engaged to construct a dummy ship fitted with modern firefighting equipment and incorporating all the salient features of a standard modern vessel.

Since the opening of the training school in October 1966, in co-operation with the British Shipping Federation over 4,500 Mercantile Marine officers, as well as many hundreds of officer cadets and officers from the fishing industry, have attended courses specifically dealing with methods of tackling fires that occur on board ship.

Courses are of a 4-day duration and the school operates for 48 weeks throughout the year.

In the syllabus which is approved by the Department of Trade and Industry, emphasis is placed on practical work based on a wide variety of created fire situations. In all, seven exercises are carried out as follows:

Day 2—Exercise 1—Fire and Rescue in Cabin Flat.

Four or five man teams enter from upper deck, use ship's hose reel, moderately light smoke, heat and humidity. No breathing apparatus to be worn.

Day 3—Exercise 2—The course will be divided into two groups.

Group 1—Carry out an exercise comparing the smoke mask and bellows with the compressed air sets. Fire in Port Lower Hold—1 man in smoke mask, remainder in compressed air sets.

Group 2—Talk and demonstration on high expansion foam unit.

At the termination of both exercises, the groups change over.

Exercise 3

Fire in ship's galley.
Enter from top deck.
Foam extinguisher.
Two-man breathing apparatus teams.

Exercise 4

Fire in radio room.
Power failure.
Two-man breathing apparatus teams.
Enter from top deck.
Carbon dioxide extinguisher.
Smoke, heat, humidity.
This exercise will be carried out concurrently with exercise 3.

Exercise 5

Fire in engine room.
Persons reported missing.
Watertight door closed.
Enter via vertical ladder to shaft tunnel.
Four-man breathing apparatus team.
Line of hose from ship's hydrant.
Tackle fire and carry out rescue.
Smoke, heat, and humidity.

Day 4—Exercise 6

Fire in 'tween deck hold.
Persons reported missing in accommodation.
Enter by main deck hatch.
Four man breathing apparatus team.
Search, locate and extinguish fire.
Search, locate and rescue trapped bodies.

Day 4—Exercise 7

This exercise is carried out on the basis of the instructors dividing the students who number 20 per course into syndicates of five students.

The instructor then creates blackboard situations on a specific part of the ship and each syndicate retires to separate rooms to deal with the problem.

Later in the day they put their own theories into practice under the watchful eye of the instructors.

Each student who successfully completes the 4-day course is issued a Department of Trade and Industry Fire Fighting Certificate; it is envisaged that such a certificate will become mandatory in the United Kingdom in the not too distant future.

The fire incidents outlined above are such that smoke, heat, fire and humidity; conditions that are met with at all fires, are actually created in this unique smoke chamber and the students operating in their respective teams wearing self-contained breathing apparatus combat these various fires throughout the ship.

The ability to create practically every type of ship fire from a common galley fire to a deep seated outbreak in a hold is made possible by the very sophisticated layout of the dummy ship, the design of which is as follows:

ENGINE ROOM

The engine room which is fitted with a Mather and Platt Mulsispray fixed installation, has a hydraulically controlled watertight door which leads into the shaft tunnel where a tunnel escape ladder is fitted. A remote control for the watertight door is provided on the upper deck. Installed in the engine room are dummy engines, a fire pump, humidifier, electrical switchgear and ancillary equipment. Also included is a typical engine room workshop and the normal steel ladders and gratings to all levels within the engine room casing. A fire hydrant is installed in the shaft tunnel and telephonic communication is fitted to link with the bridge.

On the first deck are the engineers' officers cabins fitted out as per seagoing ships: these are situated out with the engine room casing. A sprinkler installation is also installed at this deck level.

THE SECOND DECK

This contains a galley and public accommodation which represents a dining room and lounge. Throughout the ship, corridor and cabin linings are of marinite fire resisting panels. This deck contains a typical bridge with wireless room, captain's sea cabin and ship's binnacle. As far as it is practicable, the bridge is fitted with fire alarms and fire fighting equipment. On this deck level engine room skylights are fitted which are capable of being opened from both inside and outside the engine room. The hold section contains a main hold, 'tween deck hold and a hatch coaming situated on the upper deck. Access ladders are fitted at all levels.

To simulate realistic firefighting conditions in the ship, heating equipment, a humidifier and smoke generator have been installed. The heating system ducted from the main station is so arranged that it can build up a temperature of 110° F with 95 percent humidity. At the same time, by the use of free burning materials heat and effect fires are continually used throughout the ship.

The training school has a large modern lecture room with up to date visual aids.

Films of particular interest to Mercantile Marine officers are also included in the course syllabus. In addition, modern methods of fire and smoke detection together with the latest media of Hi-Ex Foam firefighting equipment, are demonstrated.

The school is staffed by officers of the South Eastern Fire Brigade. These officers have not only a wide and varied firefighting experience but each officer has attended a course at the Nautical College on Ship Construction and Stability as well as undergoing the tanker safety course.

During the period these courses have been operating, the training school has built up an extremely high reputation throughout shipping circles and, indeed, has become recognized universally as one of the very best in the field.

The importance of seafarers being trained in shipboard emergencies of this nature cannot be too strongly emphasized and the usefulness of such courses is perhaps best illustrated by quoting from a letter received at Fire Brigade Headquarters from the Esso Petroleum Co. following a fire which occurred aboard their oil tanker *Esso Cardiff*.

"I feel sure therefore that you will still further appreciate that in discussion with the officers concerned, after the vessel had been towed into port, they were all quite certain in their own minds that but for the training several of them had received at the Edinburgh Fire School, the outcome would most likely have been a very different story, the full consequences of which one has little difficulty in imagining." ⚓

COAST GUARD RULEMAKING

(Effective June 30, 1972)

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
1971 PUBLIC HEARING							
PH 8–71 Specification:							
8a. Lifeboat winches	2–24–71	3–29–71	5–15–71	X			
8b. Lifeboats	2–24–71	3–29–71	5–15–71	X			
8c. Line-throwing appliances	2–24–71	3–29–71	5–15–71	X			
8d. Inflatable liferafts	2–24–71	3–29–71	5–15–71	X			
PH 9–71 Fibrous glass-reinforced plastic construction of small passenger vessels	2–24–71	3–29–71	5–15–71				
(Second Notice of Proposed Rulemaking due to revisions 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)	3–1–72	3–27–72	4–3–72	X			
Tailshaft inspection and drawing (67–71, 4–71)	3–1–72	3–27–72	4–3–72	X			
Stability-wind heel criteria for cargo and miscellaneous vessels (43–71)	3–1–72	3–27–72	4–3–72	X			
Definition of international voyage (12–70)	3–1–72	3–27–72	4–3–72	X			
Portable foam firefighting equipment—tank vessels (17–71)	3–1–72	3–27–72	4–3–72	X			
Subchapters D, H, and I, safety factors for cargo gear (20–71)	3–1–72	3–27–72	4–3–72	X			
Visual acuity requirements, original licenses (23–71)	3–1–72	3–27–72	4–3–72	X			
Flashing navigation lights on barges (33–71)	3–1–72	3–27–72	4–3–72	X			
Life preserver rescue lights (68–71)	3–1–72	3–27–72	4–3–72	X			
Two avenues of escape—tank, cargo, and oceanographic vessels (45–71)	3–1–72	3–27–72	4–3–72	X			
Inspection of bottom bearing mobile offshore drilling and workover units (87–71)	3–1–72	3–27–72	4–3–72	X			
ANCHORAGE REGULATIONS							
Casco Bay, Maine	6–16–72		7–19–72	X			
Henderson Harbor, N.Y.	6–28–72		8–1–72	X			
Neenah Harbor, Neenah, Wis. (CGFR 72–11)	2–1–72		3–4–72			6–28–72	8–1–72
Puget Sound Area, Wash. (CGFR 72–13)	2–3–72		3–5–72	X			
St. John's River, Fla. (CGFR 71–162)	12–22–71		1–31–72	X			
St. Marys River, Mich	6–7–72	7–6–72 7–12–72	7–15–72	X			
San Francisco Bay Area (CGD 72–78)	4–28–72	5–24–72 San Francisco	5–27–72	X			
San Juan Harbor, P.R. (CGFR 72–12)	2–1–72		3–4–72	X			
Willington River, Ga. (CGFR 71–153)	11–25–71		12–27–71	X			
BOATING SAFETY (GENERAL)							
Boat safety standards (CGD 72–61)	4–22–72	5–17–72	5–31–72	X			
Defect notification (CGD 72–55)	4–5–72	5–3–72	5–11–72	X			
Hazardous conditions, correction of (CGD 72–71)	4–19–72	5–17–72	5–31–72	X			
Manufacturers requirements (CGD 72–60)	4–22–72	5–17–72	5–31–72	X			
Numbering and casualty reporting (CGD 72–54)	4–19–72	5–17–72	5–31–72	X			

Coast Guard Rulemaking—Continued

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
BRIDGE REGULATIONS							
Atlantic Intracoastal Waterway, Beaufort River, S.C. (CGFR 72-15)	2-2-72	.....	3-7-72	....	.....	6-21-72	7-24-72
Bear Creek, Md. (CGFR 72-17)	2-2-72	.....	3-7-72	X	.....	.....	.....
Black Water River, Fla. (CGD 72-87)	5-10-72	.....	6-13-72	....	.....	.....	.....
Chattahoochee River (CGFR 71-166)	12-29-71	1-26-72 Florida	1-27-72	X	.....	.....	.....
Idaho State Memorial Bridge, Clearwater River, Lewiston, Idaho (CGFR 71-169)	12-29-71	2-1-72	2-1-72	X	.....	.....	.....
Interstate I-90 at Lake Washington (CGFR 71-168)	12-21-71	1-27-72 Washington	1-27-72	X	.....	.....	.....
Johnson River, Conn. (CGFR 72-41)	3-3-72	.....	4-3-72	....	.....	6-9-72	6-9-72
Nanticoke, Del. (CGFR 71-142)	11-24-71	.....	12-24-71	X	.....	.....	.....
Ogden Slip, Chicago, Ill. (CGFR 72-16)	2-2-72	.....	3-7-72	X	.....	.....	.....
Sacramento River, Cal. (CGFR 71-165)	12-29-71	.....	2-7-72	X	.....	.....	.....
Saginaw River, Mich. (CGFR 72-18)	2-2-72	.....	3-7-72	X	.....	.....	.....
Union Pacific RR Co., Columbia River (CGFR 71-167)	12-29-71	2-23-72 Washington	1-27-72	X	.....	.....	.....
Carrabelle River, Fla	6-24-72	.....	7-28 72	X	.....	.....	.....
City Waterway, Tacoma	.....	.....	.....	....	.....	6-9-72	6-9-72
Fort Caswell Bridge, N.C	6-21-72	.....	7-25-72	X	.....	.....	.....
Hudson River	.....	.....	.....	....	.....	6-9-72	6-9-72
Inner Harbor Navigation Canal	.....	.....	.....	....	.....	6-9-72	3-15-72 to 6-23-72
Mare Island, Cal	6-30-72	.....	8-7-72	X	.....	.....	.....
Ohio River at Huntington	6-10-72	7-13-72	7-27-72	X	.....	.....	.....
Ortega River, Fla	.....	.....	.....	....	.....	6-9-72	6-9-72
Ortega River, Fla	6-21-72	.....	7-25-72	X	.....	.....	.....
Passaic River, N.J	.....	.....	.....	....	.....	6-16-72	6-19-72 to 7-28-72
Wishkah River, Wash	.....	.....	.....	....	.....	6-9-72	6-9-72
HAZARDOUS MATERIALS							
Bulk molasses, removal of (CGD 72-58)	3-24-72	4-25-72	4-25-72	....	.....	6-14-72	6-16-72
Cold compressed gases (CGFR 72-10)	10-16-71	1-11-72	1-18-72	....	.....	.....	.....
	[1] 1-21-72	[1] 2-22-72	[1] 2-29-72	X	.....	.....	.....
Etiologic agents (CGFR 71-170)	1-7-72	3-28-72	4-4-72	X	.....	.....	.....
Radioactive materials (CGFR 71-62)	7-9-71	8-24-71	8-31-71	X	.....	.....	.....
Radioactive materials (CGFR 71-136)	11-20-71	2-22-72	2-29-72	X	.....	.....	.....
Radioactive materials packages (CGD 72-91)	5-24-72	6-20-72	6-27-72	X	.....	.....	.....
MARINE ENVIRONMENT AND SYSTEMS (GENERAL)							
Fog signals (requirements) (CGD 72-74)	4-19-72	.....	5-15-72	X	.....	.....	.....
Oil pollution prevention (CGFR 71-160, 161)	12-24-71	2-15-72	4-21-72	X	.....	.....	.....

[1] Extension of comment period and second public hearing.

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
MERCHANT MARINE SAFETY (GENERAL)							
Boundary lines, inland waters (Louisiana, Texas, California) (CGD 72-67)	4-6-72	.....	5-8-72	....	.....	6-21-72	7-24-72
Bridge-to-bridge radio-telephone (CGFR 71-114)	3-29-72	4-28-72	4-29-72	....	.....	6-28-72	1-1-73
Buoyant devices, special purpose water safety (CGFR 72-5)	1-29-72	.....	3-15-72	X	.....	.....	.....
Documentation ports (Pascagoula and Gulfport) (CGFR 72-39)	3-9-72	.....	4-11-72	X	.....	.....	.....
Documentation ports (CGFR 72-19)	2-4-72	.....	4-4-72	X	.....	.....	.....
Fire extinguishers, marine type portable (CGFR 72-36)	3-9-72	4-18-72	4-24-72	X	.....	.....	.....
Incombustible materials (CGFR 72-47)	3-9-72	4-18-72	4-24-72	X	.....	.....	.....
Oceanographic vessels, fire main systems (CGFR 72-20)	2-4-72	.....	3-19-72	X	.....	.....	.....
Small passenger vessels, certificate forms (CGFR 72-53)	3-15-72	.....	4-17-72	....	.....	6-24-72	7-28-72
Washroom and toilet facilities (CGFR 72-4)	1-15-72	.....	3-20-72	X	.....	.....	.....
Water lights, floating electric (CGFR 72-48)	3-9-72	4-18-72	4-24-72	X	.....	.....	.....

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.

Comdr. John Hanson of Coast Guard Headquarters (right) accepts the "keys" to the new Radar Simulator Device from Bob Layne, Program Manager of Hughes Aircraft Co. Hughes developed the device for the Coast Guard. Hughes Aircraft employees Victor Westbrook (right) and David Brown watch the presentation. The Radar Tester is hoped to help merchant ship deck officers understand and operate shipboard radars more effectively.

Prototype Radar Simulator Device

The U.S. Coast Guard has recently installed a prototype radar simulator testing device in the Marine Inspection Office in New York City. This device, constructed for the Coast Guard by the Hughes Aircraft Corp., is intended to present a realistic representation of the type of radarscope which is found aboard most American merchant ships. The display itself is of the relative motion type. The prototype test consists of two problems of eight questions each to be solved in approximately 30 minutes. The problem presented is one of those which would generally confront the inland radar operator in crowded and/or poor visibility conditions. Since this is a prototype testing device, two conditions exist which would not normally occur during a regular testing session:

(1) Persons completing the prototype test are requested to complete a

questionnaire covering such topics as test comprehensibility, efficiency of the set up for testing, and the scope of test coverage.

(2) The radar simulator is not intended for operational use in qualifying radar observers at this time, but is intended only to obtain the reaction and evaluation of the maritime industry regarding its suitability as a realistic and valid test device.

All interested persons in the marine industry are invited to stop by the office of the Officer in Charge, Marine Inspection, in Battery Park, N.Y., to examine, use, and critique the new device.

Coast Guard Ship Review System

The U.S. Coast Guard is currently conducting acceptance trials on a system which will cut the time required for review of ships' plans from about 2 weeks to 3 days. The Coast Guard Ship Review System (CGSRS) is the first low cost interactive computer-graphics system in the marine industry. It was designed at Coast Guard Headquarters by the Office of Merchant Marine Safety, Merchant Marine Technical Division and was developed by CADCOM, Inc. of Annapolis, Md.

The CGSRS, a prototype graphics system, provides ships' offsets as input data to the U.S. Navy's Ship Hull Characteristics Program (SHCP), a computer program which is available on the Coast Guard's CDC–3300 computer. This multipurpose computer program calculates the characteristics that a naval architect requires to analyze a ship's design, such as hydrostatic properties, shear and bending moment as a function of loading and assumed wave profile, floodable length, intact stability, and damage stability.

The interactive computer-graphics system enables a Coast Guard naval architect to input a ship's offsets into the computer and within about 2 hours to review the vessel's hull characteristics as graphically displayed by the computer. In this way a field office can obtain data through a remote terminal within 2 or 3 days after receiving the ship's plans from the marine industry.

Under procedures in use prior to the receipt of the CGSRS, field offices would have to wait about 2 weeks for receipt of data on a ship's characteristics from Coast Guard Headquarters. The plan review at Headquarters took several days, since each offset had to be manually measured, tabulated and punched on a data card. Then the offsets had to be faired using an IBM–1130 computer with plotter output. After producing faired offsets and the requested output, the Headquarters naval architect had to mail the data back to the field office. Under a later procedure, the Navy allowed the Coast Guard to use an electromechanical digitizer to produce punched data cards directly, but the problem of checking the ship's lines for fairness remained. Besides being time consuming for the reviewing naval architect, the old procedures required large quantities of computer power, which can now be used for other purposes. Costs for ship reviews were expensive—averaging about $300 per review. Under CGSRS procedures the time factor will be reduced as indicated above, and the cost per review will be reduced to less than $100.

The various Coast Guard districts will be equipped with remote "200" users terminals with links to the CDC–3300 computer. Through these terminals, individual Merchant Marine Technical field offices will be able to calculate vessels' characteristics directly. ⚓

AMENDMENTS TO REGULATIONS

Title 46 Changes

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of Transportation

[CG 72–53R]

PART 176—INSPECTION AND CERTIFICATION

Subpart 176.01—Certificate of Inspection

SMALL PASSENGER VESSELS; CHANGE IN USE OF CERTIFICATE FORM

The purpose of these amendments to the inspection and certification regulations for small passenger vessels is to simplify and make uniform the use of certificate of inspection forms. The amendments are based on a notice of proposed rulemaking (CGFR 72–53P) issued on March 15, 1972 (37 F.R. 5394) which described the changes and solicited comments

from interested persons. No comments were received.

In consideration of the foregoing, Part 176 of Title 46 of the Code of Federal Regulations is amended by revising § 176.01–3 (a) and (b) to read as follows:

§ 176.01–3 When required—L.

(a) Except as noted in this subpart or § 176.01–27, no vessel subject to inspection and certification may be operated without a valid certificate of inspection, Form CG–3753.

(b) If necessary to prevent delay of the vessel, a temporary certificate of inspection, Form CG–854, shall be issued pending the issuance and delivery of the regular certificate of inspection. Such temporary certificate shall be carried in the same manner as the regular certificate and shall in all ways be considered the same as the regular certificate of inspection which it represents.

(46 U.S.C. 375, 390b, 416; 49 U.S.C. 1655(b); 49 CFR 1.4(b), 1.46(b))

This amendment shall become effective on July 28, 1972.

Dated: June 20, 1972.

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

(Federal Register of June 24, 1972)

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of Transportation

[CGD 72–58R]

SUBCHAPTER D—TANK VESSELS

PART 30—GENERAL PROVISIONS

SUBCHAPTER O—CERTAIN BULK DANGEROUS CARGOES

PART 151—UNMANNED BARGES

Bulk Molasses

This amendment to Title 46, Code of Federal Regulations, revokes the applicability of the tank vessel and dangerous cargo regulations to the carriage of bulk molasses.

On Friday, March 24, 1972, a notice of proposed rule making was published in the FEDERAL REGISTER (37 F.R. 6108) on this matter. A public hearing was held on April 25, 1972, to consider the proposal. Three written comments and one oral statement were received which supported the proposal.

These rules are effective in less than 90 days because the change will relieve an undue economic burden and poses no threat to the safety of life and property at sea.

In consideration of the foregoing, §§ 30.25–1 and 151.01–10 of Title 46 of the Code of Federal Regulations are amended as follows:

1. By deleting the words "Molasses, all" in Table 30.25–1.

2. By deleting the words "Molasses, all" in Table 151.01–10(d).

(R.S. 4417a, as amended, sec. 6(b)(1), 80 Stat. 937, 46 U.S.C. 391a, 49 U.S.C. 1655(b)(1), 49 CFR 1.46(b))

Effective date. These amendments shall become effective on June 16, 1972.

Dated: June 8, 1972.

W. F. REA, III,
Rear Admiral, U.S. Coast Guard, Chief Office of Merchant Marine Safety.

(Federal Register of June 14, 1972)

Title 33 Changes

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of Transportation

SUBCHAPTER D—NAVIGATION REQUIREMENTS FOR CERTAIN INLAND WATERS

[CGD 72–67R]

PART 82—BOUNDARY LINES OF INLAND WATERS

Calcasieu Channel, La., et al.

The purpose of these amendments to the regulations is to redefine the lines of demarcation for inland waters at Calcasieu Channel, La., Sabine Pass, Tex., and Ventura Marina, Calif. to bring them into conformance with recent changes to aids to navigation in the affected locations. The amendments are based on a notice of proposed rule making (CGD 72–67P) issued on April 6, 1972 (37 F.R. 6946) which described the changes and solicited comments from interested persons. No comments were received.

The amendments are adopted without change as set forth below.

In consideration of the foregoing, Part 82 of Title 33 of the Code of Federal Regulations is amended by revising §§ 82.103 and 82.106 and adding § 82.144 to read as follows:

§ 82.103 Mississippi Passes, La., to Sabine Pass, Tex.

A line drawn from a point 5.1 miles, 107° true, from Pass a Loutre Abandoned Lighthouse to South Pass Lighted Whistle Buoy 2; thence to southwest Pass Entrance Midchannel Lighted Whistle Buoy; thence to Ship Shoal Daybeacon; thence to Calcasieu Channel Lighted Whistle Buoy 20; thence to Sabine Bank Channel Lighted Bell Buoy 18.

§ 82.106 Sabine Pass, Tex., to Galveston, Tex.

A line drawn from Sabine Bank Channel Lighted Bell Buoy 18 to Galveston Bay Entrance Channel Lighted Whistle Buoy 1.

§ 82.144 Ventura Marina.

(a) A line drawn from the south end of the detached breakwater to Ventura Marina Light 4.

(b) A line drawn 080° true from the north end of the detached breakwater to shore.

(Sec. 2, 28 Stat. 572, as amended, sec. 6(b)(1), 80 Stat. 938; 33 U.S.C. 151, 49 U.S.C. 1655(b); 49 CFR 1.46(b))

Effective date. These amendments become effective on July 24, 1972.

Dated: June 15, 1972.

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

(Federal Register of June 21, 1972)

Vessel Bridge-to-Bridge Radiotelephone Regulations

The Coast Guard and the Federal Communications Commission have promulgated regulations implementing the Vessel Bridge-to-Bridge Radio-telephone Act (Public Law 92–63). The Act, by its terms, becomes effective 6 months after the promulgation of such regulations. The FCC promulgated its regulations under the Act, on June 6, 1972, and the Coast Guard regulations implementing the Act were published in the Federal Register of June 28, 1972. Both sets of regulations become effective as of January 1, 1973. Only the preamble of the Coast Guard regulations is reprinted, for information purposes, below. More complete coverage of the Act and both the FCC regulations and the complete text of the Coast Guard regulatinns will appear in the September issue of the *Proceedings*.

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of Transportation

[CGD 71–114R]

PART 26—VESSEL BRIDGE-TO-BRIDGE RADIOTELEPHONE REGULATIONS

The Coast Guard is amending Title 33 of the Code of Federal Regulations by adding a new Part 26 that implements the Vessel Bridge-to-Bridge Radiotelephone Act. These regulations require the use of the vessel bridge-to-bridge radiotelephone. The regulations also interpret the meaning of important terms in the Act and prescribe the procedures for applying for an exemption from the provisions of the Act and the regulations issued under the Act.

The regulations will require vessels subject to the Act while navigating to be equipped with at least one single channel transceiver capable of transmitting and receiving on 156.65 MHz, the Bridge-to-Bridge Radiotelephone frequency. Vessels with multichannel equipment will be required to have an additional receiver so as to be able to guard 156.65 MHz, the Bridge-to-Bridge Radiotelephone frequency, in addition to 156.8 MHz, the VHF National Distress/calling frequency required by Federal Communications Commission regulations.

Although these regulations become effective on January 1, 1973, in the interest of furthering navigation safety, operators of vessels subject to the Act are strongly encouraged to begin the use of bridge-to-bridge radiotelephone communications as soon as practicable.

Interested persons were afforded an opportunity to participate in the making of this rule. This amendment was published as a notice of proposed rule making (CGFR 71–114) on Wednesday, October 20, 1971 (36 F.R. 20306). The Marine Safety Council held a public hearing on November 15, 1971, in Washington, D.C., on the proposed regulations in accordance with the terms of the notice. The notice provided for the submission of written comments regarding all the proposed regulations by mail and at the public hearing. At the public hearing the date for written comments was extended to December 10, 1971. At the conclusion of the extension of the comment period, the Coast Guard considered the proposed regulations and all the comments submitted and on March 23, 1972, issued a supplemental notice of proposed rule making (CGD 71–114; P–2) on this matter which was published in the Federal Register on Wednesday, March 29, 1972 (37 F.R. 6405). The Marine Safety Council held a public hearing on the supplemental notice on April 28, 1972, in Washington, D.C.

The Coast Guard received 51 comments as a result of the notice of proposed rule making and 27 persons attended the first public hearing. Thirty-nine comments were received on the supplemental notice of proposed rule making and 17 persons attended the second public hearing.

One commentor requested clarification of the description of the waters subject to the Act. This has been accomplished by providing the Coast Guard's interpretation of the terms of the Act.

Another comment requested that unmanned or intermittently manned floating plants under the control of dredges not be required to be equipped with radiotelephones. This has been accomplished.

Nine comments objected to various terms that were quoted directly from the Act. These comments have not been adopted since the Coast Guard has no authority to amend the law but only to issue regulations pursuant to the law. Nine comments were received on the proposed exemption procedures which are considered to be requests for exemptions from the Act and the Coast Guard will handle these requests by subsequent administrative action and rulemaking activities.

Five comments objected to 156.65 MHz as the designated frequency specified in § 26.14 of the proposed regulations. This was done as a means of informing the reader and was not intended to be a designation of the frequency by the Coast Guard. This amendment references the frequency designated by the FCC as being 156.65 MHz in a note following the revised § 26.04.

The Coast Guard received 45 comments on the issue of whether to adopt a single frequency, "party-line" system or a multichannel, calling and shifting, system. Thirty comments favored the multichannel system while 15 favored the single frequency concept. Comments favoring the use of a single dedicated frequency utilizing the "party-line" system spoke primarily to the value of maintaining a continuous radio guard on the designated frequency whereby essential navigation information could be obtained merely by monitoring transmissions on that frequency. Under this use of a single frequency, all

navigational information transmitted within VHF range would be available since vessels subject to the Act would always be guarding that frequency. In many cases sufficient information may be obtained to safely maneuver merely by listening and without, in every case, initiating a transmission, thereby making questionable the concern that overloading of the one designated frequency will result. Also expressed was the importance of not breaking radio contact in maneuvering situations which is possible when using the multichannel system, and eliminated by the use of the single channel system.

Other comments objected to the adoption of a multichannel system because it was felt it was in conflict with the intent of Congress when developing Public Law 92–63. However, the words in section 4 of the Act "frequency or frequencies" were inserted so that should it become necessary in certain areas of high traffic density, or when circuit overloading was experienced or for other valid reason the adoption of a multichannel system was considered necessary, it could be adopted.

There was also concern expressed that a multichannel system using 156.8 MHz as the listening frequency with a shift to a working frequency would not satisfy the requirement in the Act for a dedicated frequency. Since 156.8 MHz is the National Distress and calling frequency, in the case of a distress where all exchanges other than distress traffic are required to cease on that frequency, the basic value of Bridge-to-Bridge Radiotelephone, that is, a continual exchange of navigational information, would be jeopardized.

The comments in favor of the multichannel, calling and shifting, system felt that there would be too much traffic on one channel for the system to operate effectively. In addition they felt that this would increase the noise level on the bridge and this would cause confusion. Several of the comments pointed out the successful use of the calling shifting frequency on the Great Lakes and in areas where multichannel systems have been put into voluntary use. It was also pointed out that the multichannel system is better suited for use with vessel traffic control systems.

The Coast Guard is adopting the single-channel system, because it has been specified by the Federal Communications Commission. The Coast Guard believes that it will serve to carry out the basic intent of the Act. In certain areas where the single-channel system is found to be inadequate and adoption of a multichannel system is considered necessary in these areas, exemptions to the requirement to use the single-channel system may be granted and conditions requiring the use of a multichannel operation imposed.

Nine comments objected to § 26.15 (a) on the grounds that it superseded or modified the rules of the road and that it would create liability problems for shipowners and operators under the rule in the Pennsylvania case (86 U.S.C. 125).

Two comments proposed alternate wording to specific requirements of § 26.15(a) in order to avoid what they considered to be unnecessary requirements.

One comment addressed itself to the impracticality of complying with the requirement to transmit when approaching in close proximity to another vessel and performing other duties on the bridge.

Another comment felt that requiring the use of the radiotelephone in the listed circumstances would not enhance navigational safety but would only clutter the designated frequency.

The regulations require transmissions on 156.65 MHz, but do not speak to the requirements for transmitting on this frequency in any specific set of circumstances, but, rather leave to the judgment of the master or other person in charge of directing the movements of the vessel that information to be transmitted which will best fulfill the requirements for the safe navigation of his vessel.

As a result of the comments received, the action of the Federal Communications Commission, and for editorial reasons, the regulations in the notice of proposed rule making have been amended as follows:

(a) Section 26.01 has been revised;

(b) The definition of "Navigable waters of the United States inside the lines established pursuant to section 2 of the Act of February 17, 1895 (28 Stat. 672), as amended." is moved from § 26.11(b) to § 26.02;

(c) Section 26.11 is redesignated § 26.03 and unmanned and intermittently manned floating plants under the control of a dredge have been excepted from the requirement to have radiotelephone capability;

(d) Sections 26.12, 26.13, 26.20, and 26.25 have been redesignated §§ 26.05, 26.06, 26.07, and 26.08, respectively.

(e) Sections 26.14 and 26.15 have been revised and combined as § 26.04;

(f) Section 26.09 has been added to provide a listing of exemptions granted; and

(g) Section 26.10 has been added that quntes the penalty provisions of the Act.

* * * * *

This amendment shall become effective January 1, 1973.

The complete text of these regulations was published in the "Federal Register" of June 28, 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 June 14 and 21, 1972, for detailed itemization and identification.

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 revisinns, 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.

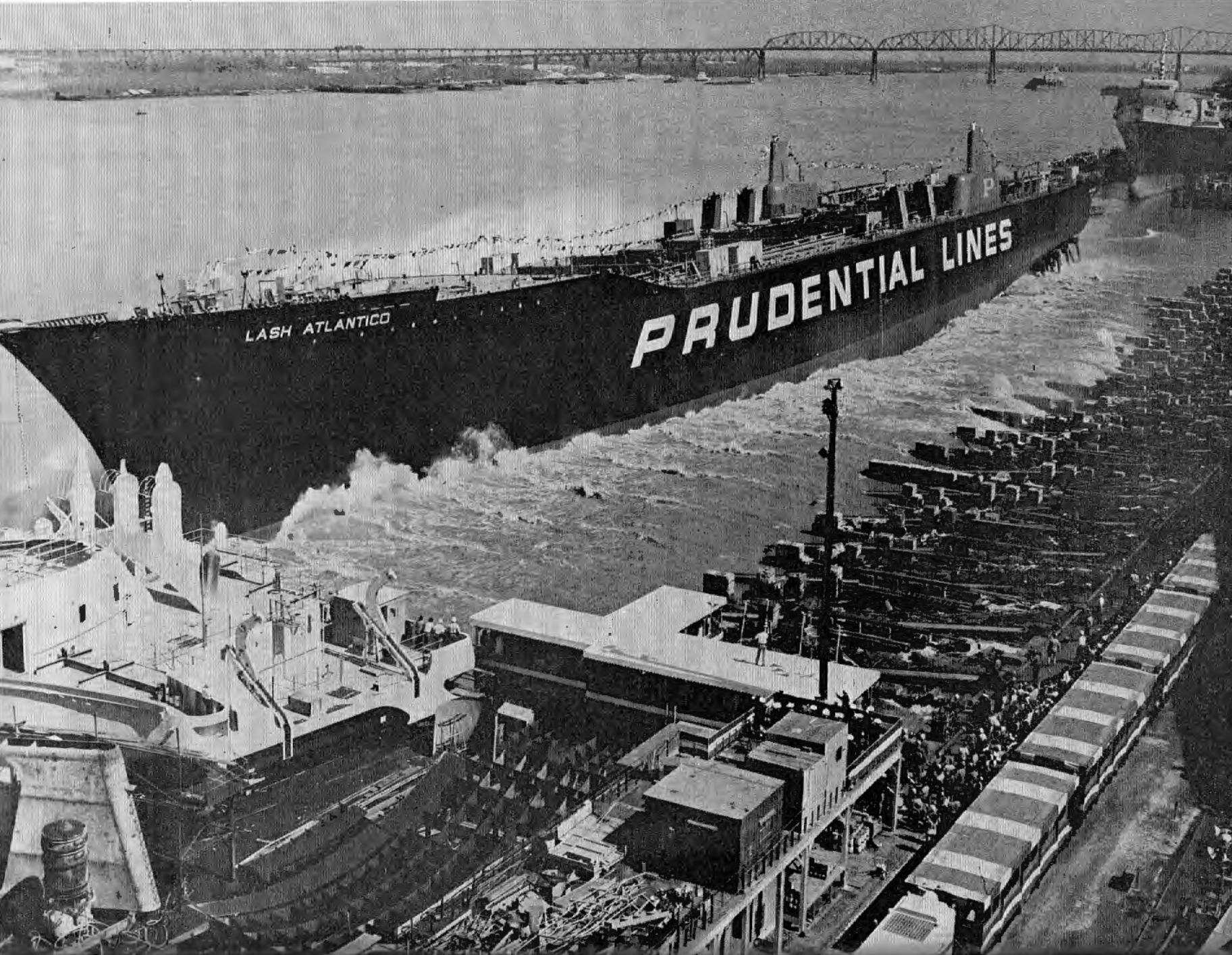
The Federal Register will be furnished by mail to subscribers, free of postage, for $2.50 per month or $25 per year, payable in advance. The charge for individual copies is 20 cents for each issue, or 20 cents for each group of pages as actually bound. Remit check or money order, made payable to the 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, 6–14–72.
129	Proceedings of the Marine Safety Council (Monthly).
169	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, 6–21–72, 6–28–72.
172	Rules of the Road—Great Lakes (9–1–66). F.R. 2–18–67, 7–4–69, 8–4–70, 3–15–72, 6–21–72, 6–28–72.
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, 6–21–72, 6–28–72.
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.
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (5–1–67). F.R. 3–30–68, 4–30–70, 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).
239	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, 8–24–71, 2–15–72.
249	Marine Safety Council Public Hearing Agenda (Annually).
256	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, 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 (11–1–68). 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, 6–24–72.
329	Fire Fighting Manual for Tank Vessels (7–1–68).

CHANGES PUBLISHED DURING JUNE 1972

The following have been modified by Federal Registers:

CG–123, Federal Register of June 14, 1972
CG–169, CG–172, CG–184 Federal Registers of June 21 and 28, 1972
CG–323, Federal Register of June 24, 1972
CG–190, Federal Registers of June 14 and 21, 1972


LASH ATLANTICO
PRUDENTIAL LINES