PROCEEDINGS
OF THE MARINE SAFETY COUNCIL

bridge-to-bridge radiotelephone issue

DEPARTMENT OF TRANSPORTATION UNITED STATES COAST GUARD

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IN THIS ISSUE . . .

Bridge-to-Bridge Radiotelephone Communications Requirements

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CONTENTS

FEATURES

DEPARTMENTS

COVERS

FRONT COVER: This scene will become increasingly familiar on the bridges of many ships as the January 1, 1973 effective date of vessel bridge-to-bridge radiotelephone regulations nears. The Coast Guard encourages voluntary use of either the portable unit shown here or a permanently installed set before the equipment becomes mandatory.

BACK COVER: The sight of an approaching vessel looming out of the fog on a collision course will hopefully become less familiar as bridge-to-bridge radiotelephone communication proves its worth as a navigational safety tool.

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PROCEEDINGS

OF THE

MARINE SAFETY COUNCIL

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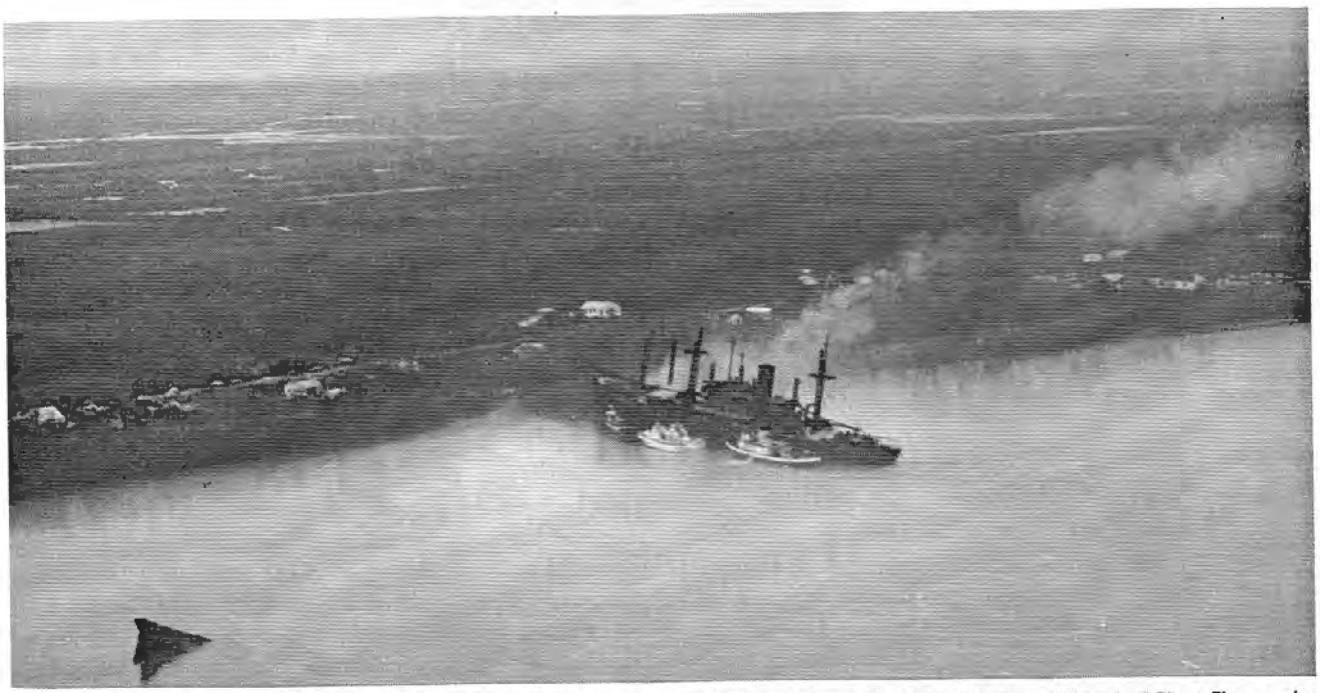
Lieutenant (jg) A. W. Vander Meer, Jr., Editor

THE VESSEL BRIDGE-TO-BRIDGE RADIOTELEPHONE ACT

A HISTORY

ON A HOT and muggy night in July 1956, the Swedish-American ocean liner M/V *Stockholm* and the SS *Andrea Doria* of the Italian Line, carrying a total of 1,684 passengers, sailed toward a catastrophe off Nantucket that was to claim the lives of 50, send the *Andrea Doria* to the bottom, and raise an international outcry for increased standards of safety at sea. Though the collision of the liners occurred outside U.S. jurisdiction, so fierce was the heat of public outrage that Herbert C. Bonner, then chairman of the House Committee on Merchant Marine Fisheries, appointed a special informal committee to study the disaster and submit recommendations for future regulatory action. That committee, headed by Vice Admiral E. L. Cochrane USN (Ret.) reported its findings and recommendations on January 3, 1957. Among its several suggestions was one calling for the increased use of bridge-to-bridge radio communications as "an important navigational safety tool."

On June 22, 1972, 16 years later, Admiral C. R. Bender, Commandant of the Coast Guard, signed regulations requiring many commercial vessels operating in the navigable waters of the United States to install bridge-to-bridge radiotelephone capabilities in order to promote maritime safety. The long time span between the *Andrea Doria-Stockholm* disaster and the promulgation of the regulations was marked by many and varied appeals for bridge-to-bridge regulations, long and intensive study of those appeals, patience, frustration, hard work—and other collisions which might have been averted had the vessels involved utilized bridge-to-bridge communications. This article is offered as a chronicle of the events, individuals, and groups who contributed to the passage of one of the



This view of the still smoldering SS *African Star* shows it beached after colliding with an oil barge on the lower Mississippi River. The remains of the barge can be seen in the lower left corner of the photograph. Twenty-five people died in the accident, which was attributed to a failure of the pilots of the two vessels to reach a passing agreement. The Coast Guard investigative report and the NTSB review of the casualty both included recommendations for enactment of vessel bridge-to-bridge radiotelephone legislation.

most significant advances toward real safety at sea—bridge-to-bridge radiotelephone capability.

In 1964 the first definitive action toward requiring communications capability on a national scale began as a joint committee was established by the Coast Guard and the Federal Communications Commission to study the feasibility of enacting bridge-to-bridge requirements. Although earlier study groups such as the Department of Treasury's 1962 Committee on Tanker Hazards had urged among other proposals that "bridge-to-bridge radiotelephone be used in congested waters by all ships for the exchange of navigational information," the joint committee was the first to deal exclusively with the concept. Capt. William C. Foster, then chief, Merchant Vessel Inspection Division, USCG, reported in a speech to the American Pilots Association in the fall of 1964 that the Coast Guard viewed mandatory bridge-to-bridge capabilities as essential to safe navigation in crowded shipping areas.

The case for bridge-to-bridge radiotelephone requirements was made by many sources. Some of the evidence was tragic, as exemplified by the collision of the American SS *Cedarville* and the Norwegian M/V *Topdalsfjord* in which 10 lives were lost on a foggy night in the straits of Mackinac, Mich. as a result of a breakdown in communications and confusion of passing agreements. Other evidence, though less dramatic in nature, came in the form of an exhaustive study of 199 collisions conducted by the Coast Guard which indicated that human error frequently destroyed the effectiveness of the whistle signals required by the Rules of the Road. Frederick W. Fricker, then a marine information specialist with the Naval Oceanographic Office, cited the Coast Guard figures in contending that approximately half of the vessels involved did not attempt to exchange whistle signals as provided by the rules. Moreover, a U.S. Maritime Administration study group pointed out that three major inadequacies of sound signals, the failure to (1) understand them, (2) hear or respond to them, or (3) to establish correctly the direction and nature of their source, contributed significantly to maritime accidents.

The need was clear, then in the middle sixties for increased utilization of what Capt. Paul Ives, a Philadelphia pilot, called the "missing link" in the navigator's tools: the ability not only to see an oncoming vessel with radar, but also to know exactly that ship's intentions by direct and timely bridge-to-bridge communications. Responding to that need, the Coast Guard–FCC joint committee released in the summer of 1965 a report advocating requirements for bridge-to-bridge capabilities. Included in that report were proposed regulations which would implement a bill to be submitted through the Treasury Department's legislative program. The proposed regulations would amend title 33 of the Code of Federal Regulations and make mandatory the maintenance of a continuous listening watch on a single dedicated frequency.

Much work remained, however, on the road to congressional approval, and other interests joined in the growing discussion and study of the question. On the international level, a radiocommunication subcommittee of the Intergovernmental Maritime Consultative Organization (a specialized agency of the United Nations) met in October, 1966, and voted to support, in principle, the use of the maritime mobile VHF channels and the associated technical requirements if a radiocommunication system were established for the movement and safety of ships in congested waters. A second session of that same subcommittee, which met early in 1967, drafted technical regulations concerning use and installation of VHF–FM maritime radiotelephone on board ships when sailing in areas designated as congested waters by a member country.

Two significant and successful regional systems of bridge-to-bridge communications also added impetus and information to the movement toward adopting requirements on a national scale in the middle sixties. The more established of the programs, a system of communications in the Great Lakes, had its beginnings in 1934 as a ship-to-shore radiotelephone was first used to ask for medical advice. Shortly after World War II every vessel plying the Lakes waterways was equipped with bridge-to-bridge communication capabilities under a system developed through the joint efforts of the Lake Carriers' Association, the Coast Guard, the FCC, the Canadian Dominion Marine Association and the Canadian Department of Transport. In 1954 a treaty between the United States and Canada, the Great Lakes Agreement, affirmed the previous voluntary system and in 1968 a spokesman for the Lake Carriers' Association was able to report that since its ratification only three major collisions involving vessel losses had been reported. In all instances, a foreign-flag vessel was involved and there was a failure to establish proper bridge-to-bridge communication.

The Delaware Bay and River system was the scene for a similarly successful program. The pilots in that region have voluntarily used bridge-to-bridge radiocommunication since 1960. During the 5 years and 10 months preceding the program's implementation there was an average of 1.27 collisions per month. That average dropped gradually to 0.91 collisions per month during the first few years of the program and in 1966 and 1967 the figures fell even lower, to 0.23 per month. The years 1968 and 1969 brought the program to fruition as no collisions were recorded involving vessels equipped with bridge-to-bridge capabilities. That accomplishment looms even more significant in light of the fact that during the decade both the number of vessels and amount of tonnage increased significantly, thereby increasing the potential for disaster. The Commandant, Adm. W. J. Smith of the Coast Guard, expressed the thoughts of many when he reported to the Merchant Marine Conference in October 1967, "The

CAUSES

Description	Total Fiscal Years 1957, 1958, and 1959	Total Fiscal Years 1967, 1968, and 1969	Percent change
Excessive Speed	77	81	+5
Insufficient Power	9	12	+33
Wrong Side of Channel	58	74	+8
Failure To Sound Signals	45	96	+113
Meeting Situation, Turned Left	27	29	+7
Crossing Situation Burdened, Failed To Give Way	24	32	+33
Failed To Stop or Back	15	53	+253
Evasive Maneuvering Too Little or Too Late	21	69	+229
Overtaking Vessel Failed To Keep Clear	29	24	−17
Overtaken Vessel Failed To Maintain Course	6	9	+50
Wind, Sea, or Current Were Factors	12	32	+167
Agreement Reached, Vessel Sheered	NA	11	.....
Agreement Reached, Other	NA	27	.....
Cross Signals	NA	12	.....
Evasive Action Not Prudent	NA	27	.....

Table I: *Provides statistics on the causes of collisions during the two time periods. As the figures indicate, the failure to sound passing signals accounted for more collisions than any single cause, while other "confusion in passing" related causes accounted for a considerable number of accidents.*

The two tables shown here are the result of a Coast Guard Office of Merchant Marine Safety study of 199 collisions in fiscal years 1957, 1958, and 1959 and 218 collisions in fiscal years 1967, 1968, and 1969.

MATERIAL/PERSONNEL FAILURES

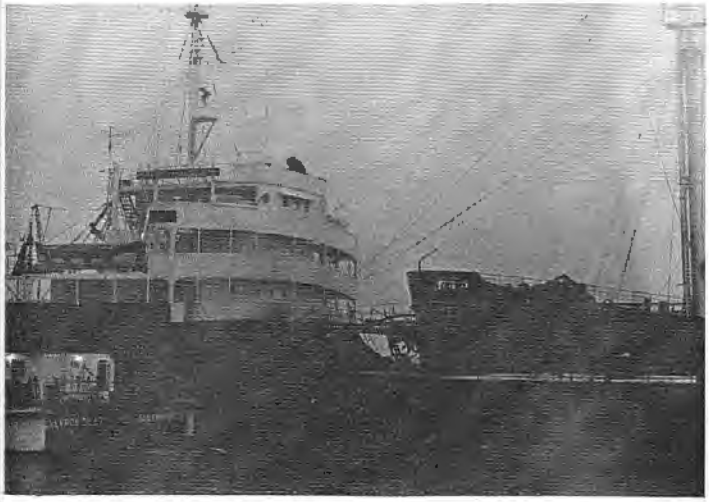
Fiscal Years 1957, 1958, and 1959		Fiscal Years 1967, 1968, and 1969	
Description	Total	Description	Total
Material Failure	6	Material Failure	12
Personnel Failure	289	Personnel Failure	306
No Material Failure	390	No Failure	115
No Personnel Failure	107	Combination Material/Personnel	3
Material Failure Not Determined	2		
Personnel Failure Not Determined	2		

Table II: *Breaks down collisions on the basis of mechanical and personnel failure. From the figures it appears that any device that minimizes the chances of human error could significantly reduce the number of collisions.*

advantages of bridge-to-bridge radiocommunications have long been apparent as an extension of whistle signals in restricted and crowded waters."

Other water traffic systems also demonstrated the need for bridge-to-bridge communications during the sixties. But here tragedy rather than success was the headline maker. Early in the morning of March 16, 1968, the SS *African Star,* downbound on the lower Mississippi, attempted a starboard to starboard meeting with two loaded tank barges pushed by the towing vessel *Midwest Cities.* Although the pilot of the *African Star* tried to contact the oncoming vessel over his radiotelephone to confirm the maneuver, he was unable to reach the pilot of the *Midwest Cities* because the vessels' radios were not designed to operate on the same frequency. Because of confusion on the passing agreement, the two vessels collided and the barges pushed by the *Midwest Cities,* filled with highly volatile crude oil, exploded. Twenty-one persons died aboard the *African Star* as the fiercely burning tank barge sank in the river. Thirteen months after the *Midwest Cities—African Star* disaster, the lower Mississippi was once again the scene of a freighter—tank barge collision, this time involving the SS *Union Faith* (Taiwan) and barges pushed by the tug *Warren J. Doucet.* Twenty-five people perished as the *Union Faith* was engulfed in flames from the exploding crude oil load pushed by the tug. The Marine Board of Investigation convened to study the tragedy concluded that "* * * the primary cause of the casualty was the failure of the SS *Union Faith* and the M/V *Warren J. Doucet* to reach an agreement as to the method of passing when in a meeting situation." The Commandant of the Coast Guard noted in his remarks on the case that legislation concerning bridge-to-bridge radiocommunications was pending in Congress.

Approval of a bill to require bridge-to-bridge radiotelephone communications appeared certain in the summer of 1970 as the House of Representatives passed the bill in July of that year. Senate Commerce committee hearings delayed passage in the 91st session, however, as certain important provisions were reworked and the need



Although the SS *Arizona Standard* and the SS *Oregon Standard* were equipped with bridge-to-bridge radiotelephone units, there was no communication between the two vessels prior to their collision beneath the Golden Gate Bridge in January 1971. The reason: neither was required to monitor a single dedicated frequency.

for requiring a "continuous listening watch" as an integral part of the bill was urged.

While the bill was awaiting action in the first session of the 92nd Congress early in 1971, maritime history was being written in heavy oil on the beaches of San Francisco Bay. There on the night of January 17, two tankers collided in the fog just outside the Golden Gate Bridge. Though no lives were lost, the ecological damage incurred by the spillage of 800,000 gallons of oil brought both national headlines and national furor. Eight days after the accident, President Nixon, in a special message to Congress, pressed for passage of the act by pointing out, "While most vessels today carry radio equipment, there is not always a compatible and open communication channel between two ships and hence, they often cannot communicate even the most basic navigational information." A Coast Guard Marine Board of Investigation subsequently concluded that among the factors leading to the collision was "* * * the failure to establish radiotelephone communications." Congress passed the Bridge-to-Bridge Radiotelephone Act, Public Law 92–63, on August 4, 1971.

To implement the new law, regulations had to be promulgated by the Coast Guard and by the FCC. Accordingly, the Coast Guard first published proposed regulations in October 1971, and a public hearing was held in November. The Coast Guard received 51 comments as a result of the notice of proposed rule making and 27 persons attended the first public hearing. The decision to opt for a single dedicated frequency rather than a "calling and working" multichannel system occupied the center of controversy. Proponents of the single frequency system listed as their arguments that (1) there would be no delay in the effective date of the regulations, (2) the legislative history of the act indicated that it was written with a single dedicated frequency in mind, (3) the "party line" effect, whereby other ships in restricted waters would know what maneuvers various masters were proposing, would be of great value, (4) there is no danger of losing contact in a critical juncture, which could conceivably happen if pilots were required to switch to a "working" frequency, (5) bridges, locks, and shore stations would also be tied into the system since they operate on the designated frequency.

Communications experts favoring the multichannel system replied that overcrowding of a single frequency in busy shipping areas would eventually dictate the need for the "call and switch" system—particularly after the development of vessel traffic systems—and urged that it be instituted now while the equipment was being designed and bought to satisfy the new law. Although critics of the multichannel system contended that the effective date of the regulations would be delayed and that the advantage of a "party line" would be lost were the "call and switch" system to be adopted, its adherents pointed to its demonstrated success when used in programs by foreign nations. These advocates of a multichannel system also argued that the United States would be at a disadvantage in international negotiations if a system so "out of step" with the rest of the world were adopted. Finally, legal experts advised that the multichannel system was permitted as an alternative by the wording of the act.

In response to public comment the Commandant published a second notice, espousing a "call and switch" system, and a second public hearing was held. Thirty-nine comments were received on the supplemental notice of proposed rule making and 17 persons attended the second public hearing. Again the various arguments on the two systems were weighed and as a result the decision to enact a system utilizing the single dedicated frequency was made. That decision was reflected in regulations published by the FCC in the Federal Register on June 6, 1972. The Coast Guard's regulations were signed by the Commandant on June 22, 1972, with the hope that radiotelephone communications will become commonplace on a voluntary basis before the effective date of January 1, 1973. It is also hoped that this navigational tool, in conjunction with strict obedience to the Rules of the Road, will reap the benefits cited during the many years between its first recognized need and eventual passage into law. ⚓

An Act

To require a radiotelephone on certain vessels while navigating upon specified waters of the United States.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Vessel Bridge-to-Bridge Radiotelephone Act".

SEC. 2. It is the purpose of this Act to provide a positive means whereby the operators of approaching vessels can communicate their intentions to one another through voice radio, located convenient to the operator's navigation station. To effectively accomplish this, there is need for a specific frequency or frequencies dedicated to the exchange of navigational information, on navigable waters of the United States.

SEC. 3. For the purpose of this Act—

(1) "Secretary" means the Secretary of the Department in which the Coast Guard is operating;

(2) "power-driven vessel" means any vessel propelled by machinery; and

(3) "towing vessel" means any commercial vessel engaged in towing another vessel astern, alongside, or by pushing ahead.

SEC 4. (a) Except as provided in section 7 of this Act—

(1) every power-driven vessel of three hundred gross tons and upward while navigating;

(2) every vessel of one hundred gross tons and upward carrying one or more passengers for hire while navigating;

(3) every towing vessel of twenty-six feet or over in length while navigating; and

(4) every dredge and floating plant engaged in or near a channel or fairway in operations likely to restrict or affect navigation of other vessels—

shall have a radiotelephone capable of operation from its navigational bridge or, in the case of a dredge, from its main control station and capable of transmitting and receiving on the frequency or frequencies within the 156–162 Mega-Hertz band using the classes of emissions designated by the Federal Communications Commission, after consultation with other cognizant agencies, for the exchange of navigational information.

(b) The radiotelephone required by subsection (a) shall be carried on board the described vessels, dredges, and floating plants upon the navigable waters of the United States inside the lines established pursuant to section 2 of the Act of February 19, 1895 (28 Stat. 672), as amended.

SEC. 5. The radiotelephone required by this Act is for the exclusive use of the master or person in charge of the vessel, or the person designated by the master or person in charge to pilot or direct the movement of the vessel, who shall maintain a listening watch on the designated frequency. Nothing contained herein shall be interpreted as precluding the use of portable radiotelephone equipment to satisfy the requirements of this Act.

SEC. 6. Whenever radiotelephone capability is required by this Act, a vessel's radiotelephone equipment shall be maintained in effective operating condition. If the radiotelephone equipment carried aboard a vessel ceases to operate, the master shall exercise due diligence to restore it or cause it to be restored to effective operating condition at the earliest practicable time. The failure of a vessel's radiotelephone equipment shall not, in itself, constitute a violation of this Act, nor shall it obligate the master of any vessel to moor or anchor his vessel; however, the loss of radiotelephone capability shall be given consideration in the navigation of the vessel.

SEC. 7. The Secretary may, if he considers that marine navigational safety will not be adversely affected or where a local communication system fully complies with the intent of this concept but does not conform in detail, issue exemptions from any provisions of this Act, on such terms and conditions as he considers appropriate.

SEC. 8. (a) The Federal Communications Commission shall, after consultation with other cognizant agencies, prescribe regulations necessary to specify operating and technical conditions and characteristics including frequencies, emission, and power of radiotelephone equipment required under this Act.

(b) The Secretary shall, subject to the concurrence of the Federal Communications Commission, prescribe regulations for the enforcement of this Act.

SEC. 9 (a) Whoever, being the master or person in charge of a vessel subject to this Act, fails to enforce or comply with this Act or the regulation, hereunder; or

Whoever, being designated by the master or person in charge of a vessel subject to this Act to pilot or direct the movement of the vessel, fails to enforce or comply with this Act or the regulations hereunder—

Is liable to a civil penalty of not more than $500 to be assessed by the Secretary.

(b) Every vessel navigating in violation of this Act or the regulations hereunder is liable to a civil penalty of not more than $500 to be assessed by the Secretary for which the vessel may be proceeded against in any district court of the United States having jurisdiction.

(c) Any penalty assessed under this section may be remitted or mitigated by the Secretary upon such terms as he may deem proper.

SEC. 10. This Act shall become effective May 1, 1971, or six months after the promulgation of regulations which would implement its provisions, whichever is later.

(85 Stat. 164; 33 U.S.C. § 1201 et seq. (Supp. I, 1971)).

COAST GUARD AND FEDERAL COMMUNICATIONS COMMISSION REGULATIONS

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 hy 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 subect 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 commentator 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 trans-

missions 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 manuevering 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 quotes the penalty provisions of the Act.

In consideration of the foregoing, Title 33 of the Code of Federal Regulations is amended by adding a new Part 26 to read as follows:

Sec.

AUTHORITY: The provisions of this Part 26 issued under 85 Stat. 146; 33 U.S.C.A. secs. 1201–1208; 49 CFR 1.46(o)(2).

§ 26.01 Purpose.

(a) The purpose of this part is to implement the provisions of the Vessel Bridge-to-Bridge Radiotelephone Act. This part—

(1) Requires the use of the vessel bridge-to-bridge radiotelephone;

(2) Provides the Coast Guard's interpretation of the meaning of important terms in the Act;

(3) Prescribes the procedures for applying for an exemption from the Act and the regulations issued under the Act and a listing of exemptions.

(b) Nothing in this part relieves any person from the obligation of complying with the rules of the road and the applicable pilot rules.

§ 26.02 Definitions.

For the purpose of this part and interpreting the Act—

"Secretary" means the Secretary of the Department in which the Coast Guard is operating;

"Act" means the "Vessel Bridge-to-Bridge Radiotelephone Act", 33 U.S.C.A. sections 1201–1208;

"Length" is measured from end to end over the deck excluding sheer;

"Navigable waters of the United States inside the lines established pursuant to section 2 of the Act of February 19, 1895 (28 Stat. 672), as amended," means those waters governed by the Navigation Rules for Harbors, Rivers, and Inland waters (33 U.S.C. sec. 151 et seq.), the Navigation Rules for Great Lakes and their Connecting and Tributary Waters (33 U.S.G. sec. 241 et seq.), and the Navigation Rules for Red River of the North and Rivers emptying into Gulf of Mexico and Tributaries (33 U.S.C. sec. 301 et seq.);

"Power-driven vessel" means any vessel propelled by machinery; and

"Towing vessel" means any commercial vessel engaged in towing another vessel astern, alongside, or by pushing ahead.

§ 26.03 Radiotelephone required.

(a) Unless an exemption is granted under § 26.09 and except as provided in subparagraph (4) of this paragraph, section 4 of the Act provides that—

(1) Every power-driven vessel of 300 gross tons and upward while navigating;

(2) Every vessel of 100 gross tons and upward carrying one or more passengers for hire while navigating;

(3) Every towing vessel of 26 feet or over in length while navigating; and

(4) Every dredge and floating plant engaged in or near a channel or fairway in operations likely to restrict or affect navigation of other vessels: *Provided,* That an unmanned or intermittently manned floating plant under the control of a dredge need not be required to have separate radio-telephone capability;

Shall have a radiotelephone capable of operation from its navigational bridge, or in the case of a dredge, from its main control station, and capable of transmitting and receiving on the frequency or frequencies within the 156–162 Mega-Hertz band using the classes of emissions designated by the Federal Communications Commission, after consultation with other cognizant agencies, for the exchange of navigational information.

(b) The radiotelephone required by paragraph (a) of this section shall be carried on board the described vessels, dredges, and floating plants upon the navigable waters of the United States inside the lines established pursuant to section 2 of the Act of February 19, 1895 (28 Stat. 672), as amended.

§ 26.04 Use of the designated frequency.

(a) No person may use the frequency designated by the Federal Communications Commission under section 8 of the Act, 33 U.S.C.A. section 1207(a), to transmit any information other than information necessary for the safe navigation of vessels or necessary tests.

(b) Each person who is required to maintain a listening watch under section 5 of the Act shall, when necessary, transmit and confirm, on the designated frequency, the intentions of his vessel and any other information necessary for the safe navigation of vessels.

(c) Nothing in these regulations may be construed as prohibiting the use of the designated frequency to communicate with shore stations to obtain or furnish information necessary for the safe navigation of vessels.

NOTE: The Federal Communications Commission has designated the frequency 156.65 MHz for the use of bridge-to-bridge radiotelephone stations.

§ 26.05 Use of radiotelephone.

Section 5 of the Act states—

(a) The radiotelephone required by this Act is for the exclusive use of the master or person in charge of the vessel, or the person designated by the master or person in charge of the vessel, or the person designated by the master or person in charge to pilot or direct the movement of the vessel, who shall maintain a listening watch on the designated frequency. Nothing contained herein shall be interpreted as precluding the use of portable radiotelephone equipment to satisfy the requirements of this Act.

§ 26.06 Maintenance of radiotelephone; failure of radiotelephone.

Section 6 of the Act states—

(a) Whenever radiotelephone capability is required by this Act, a vessel's radiotelephone equipment shall be maintained in effective operating condition. If the radiotelephone equipment carried aboard a vessel ceases to operate, the master shall exercise due diligence to restore it or cause it to be restored to effective operating condition at the earliest practicable time. The failure of a vessel's radiotelephone equipment shall not, in itself, constitute a violation of this Act, nor shall it obligate the master of any vessel to moor or anchor his vessel; however, the loss of radiotelephone capability shall be given consideration in the navigation of the vessel.

§ 26.07 English language.

No person may use the services of, and no person may serve as a person required to maintain a listening watch under section 5 of the Act, 33 U.S.C.A. section 1204 unless he can speak the English language.

§ 26.08 Exemption procedures.

(a) Any person may petition for an exemption from any provision of the Act or this part;

(b) Each petition must be submitted in writing to U.S. Coast Guard (M), 400 Seventh Street SW., Washington, DC 20590, and must state—

(1) The provisions of the Act or this part from which an exemption is requested; and

(2) The reasons why marine navigation will not be adversely affected if the exemption is granted and if the exemption relates to a local communication system how that system would fully comply with the intent of the concept of the Act but would not conform in detail if the exemption is granted.

§ 26.09 List of exemptions. [Reserved]

§ 26.10 Penalties.

Section 9 of the Act states—

(a) Whoever, being the master or person in charge of a vessel subject to the Act, fails to enforce or comply with the Act or the regulations hereunder; or whoever, being designated by the master or person in charge of a vessel subject to the Act to pilot or direct the movement of a vessel fails to enforce or comply with the Act or the regulations hereunder—is liable to a civil penalty of not more than $500 to be assessed by the Secretary.

(b) Every vessel navigated in violation of the Act or the regulations hereunder is liable to a civil penalty of not more than $500 to be assessed by the Secretary, for which the vessel may be proceeded against in any District Court of the United States having jurisdiction.

(c) Any penalty assessed under this section may be remitted or mitigated by the Secretary, upou such terms as he may deem proper.

This amendment shall become effective January 1, 1973.

Dated: June 22, 1972.

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

(Federal Register of June 28, 1972)

TITLE 47—TELECOMMUNICATION

Chapter I—Federal Communications Commission

[Docket No. 19343; FCC 72-450]

PART 81—STATIONS ON LAND IN THE MARITIME SERVICES AND ALASKA—PUBLIC FIXED STATIONS

PART 83—STATIONS ON SHIPBOARD IN THE MARITIME SERVICES

Vessel Bridge-to-Bridge Radiotelephones

In the matter of amendment of Parts 81 and 83 of the Commission's rules to implement the provisions of the Vessel Bridge-to-Bridge Radiotelephone Act (Public Law 92-63).

Report and order. 1. A notice of proposed rule making in the above-captioned matter was released on November 8, 1971 and was published in the Federal Register on November 11, 1971 (36 F.R. 21602). The comment and reply comment period was extended by subsequent order released December 21, 1971, from December 17, 1971 and December 28, 1971, to December 29, 1971, and January 11, 1972, respectively. Following receipt of two letters from the Commandant of the Coast Guard dated January 14, 1972 and March 2, 1972 the comment period was reopened by order released March 24, 1972 (FCC 72-273) for the purpose of receiving comments on the information supplied in the two Coast Guard letters. The dates for filing these last comments has passed. A list of commentators is attached.

2. The basic intent of the Act is to require ships subject to the Bridge-to-Bridge Act to have available on the bridge a radiotelephone operating on a frequency dedicated to the exchange of navigational information—"a party-line system." Normally, all bridge - to - bridge communications (calling and working) would be accomplished on this single channel. The Commission's original notice of proposed rule making was in accord with this concept and most of the comments received in response to that Notice raised no question in this regard.

3. The responsibility for the implementation of the Act is shared between the U.S. Coast Guard and this Commission. The Coast Guard "prescribe(s) regulations for the enforcement of the Act" and issues exemptions from the Act. The Commission is charged with "prescribing regulations necessary to specify operating and technical conditions and characteristics including frequencies, emissions, and power of the radiotelephone equipment required under this Act" (section 8). While the Commission was engaged in rulemaking, the Coast Guard was proceeding on a parallel rulemaking course. As a result of the information developed in its proceeding the Coast Guard requested the Commission to consider the feasibility of utilizing the frequency 156.8 MHz to satisfy the listening watch requirement of section 5 of the Act and as a calling frequency prior to establishing communications on the 156.65 channel. The 156.8 channel could be used "for brief exchanges of navigational information." The system concept would change from a single channel system to a "calling/shifting system."

4. The Coast Guard request was received after the comment period closed. The proceeding was reopened by our Order released March 24, 1972 in order to afford interested parties an opportunity to comment on the matter. Many cogent arguments were made in support of each of the possible systems. However, there is no doubt that throughout the long legislative process culminating in the Bridge-to-Bridge Radiotelephone Act, the predominant theme and understanding was that bridge-to-bridge communications were to be accomplished on a single channel, dedicated frequency, party-line system. The possibility of having to sectorize some of the more congested port and harbor areas and use a different frequency in each sector was recognized but this was not considered to be a departure from the basic single, exclusively navigation, channel concept. To change now to a multichannel system in which one of the channels would not be used exclusively for navigational purposes during the administrative process of implementation of the Act places the burden on the proponents to show that such a system is consistent with the Act and is operationally superior to the single channel party line system. In our opinion, this burden has not been sustained.

5. Although it may be argued that the language of the Act is sufficiently

broad to permit a multichannel system, the references in the Act to the utilization of a frequency or frequencies, "dedicated" to navigational purposes casts serious doubt on the use of 156.8 MHz in a standardized, nationwide, multichannel system. That frequency, of course, is used for purposes other than navigation and, indeed, one of these purposes, distress, takes precedence over its navigational function.

6. From an operational standpoint, both systems have alleged benefits and deficiencies. The main benefits claimed for single channel are as follows: There should be less congestion on 156.65 MHz which is used exclusively for navigational purposes than will be experienced on Ch. 16 (156.8 MHz) because calling, distress, and safety communications are transmitted on Ch. 16,[1] ships will hear all bridge-to-bridge exchanges within range even those not addressed to it and should benefit from a knowledge of what is going on in the area; and, possibility of errors in shifting frequencies will be minimized. The main deficiencies are that it may require the monitoring of an additional channel for multichannel equipment; and single-channel equipment will not allow for expansion of the system if it should prove necessary in congested areas. Additionally, the benefits of a continuous watch on the national distress, safety, and calling frequency 156.8 MHz would not be attained by those with only single-channel equipment.

7. The main benefits to be derived from the calling and shifting system are: It will reduce the number of channels required to be monitored (although this may interject a deficiency in that ships will not hear all navigational exchanges if they are not monitoring both Channel 16 and the bridge-to-bridge channel); it will be in accordance with the international system; and additional frequencies may be added to cover congested areas. The Coast Guard felt that multichannel equipment would be necessary for the Vessel Traffic Systems (VTS) which it expects to inaugurate in major U.S. ports and waterways, and that there would be safety benefits by incorporating both the bridge-to-bridge and VTS functions in a multichannel system. Additionally, the equipment procurement impact for vessels participating in both systems was felt to be less under this alternative. The main deficiencies are: The use of Channel 16 as the calling frequency will in all likelihood increase congestion on a frequency which may become heavily burdened even in the absence of a bridge-to-bridge communications[2]—the Commission's VHF program could result in large numbers of small boats being on this frequency in the next several years; a distress situation could impede the bridge-to-bridge calling system, and errors in shifting frequencies could occur.

8. From an experience standpoint, various parties claimed that each of the systems worked well in actual operations. The pilots cite their experience with single channel and all reports are favorable. Gulf Oil has had some experience with both systems and has found single channel to be the more satisfactory. The Lake Carriers and Lorain cite Great Lakes operations as showing the superiority of calling and working. However, the Great Lakes system has not been tested under extensive use of Channel 16 by small boats—a test which will come by 1977 if not before.

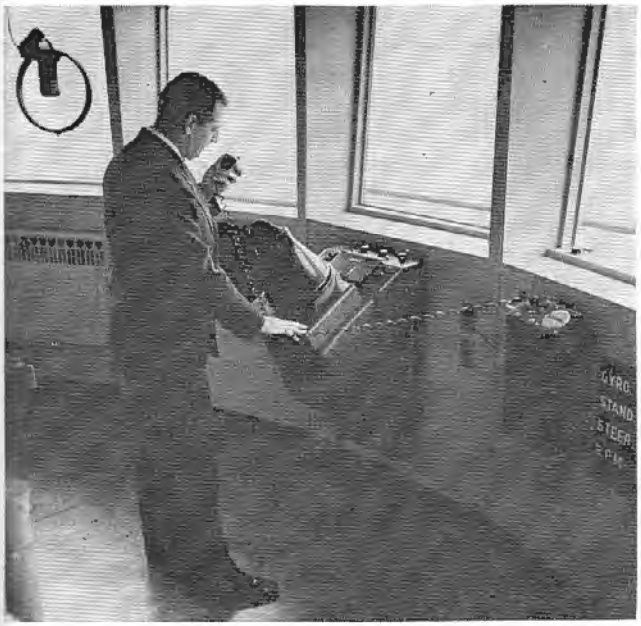
9. Specific treatment of comments directed to other aspects of our proposed rules follows. In general the comments we received will be treated as they relate to a specific section and seriatim.

10. Lorain has suggested the use of a new form for requesting inspection of vessels subject to the Bridge-to-Bridge Act but not for other compulsory equipment requirements. While the Communications Act specifically requires periodic inspection of radio installations aboard compulsorily equipped vessels, no such requirement is included in the Bridge-to-Bridge Act. The Commission is empowered, however, to impose a requirement for periodic inspection of vessels subject to the compulsory bridge-to-bridge requirements if it is deemed necessary or desirable. In consideration of the large number of vessels subject to the requirement and for certain other reasons the Commission does not find it feasible to institute a compulsory inspection requirement program at this time. The bridge-to-bridge installation on vessels also subject to Part II or Part III, title III of the Communications Act, the Safety Convention or the Great Lakes Radio Agreement will be subject to inspection, however, during the course of inspections carried out pursuant to §§ 83.441, 83.481, 83.512, and 83.537 of the Commission's rules. Application forms submitted pursuant to these requirements and § 83.46 should also indicate the requirement for inspection of the bridge-to-bridge equipment in addition to the other compulsory equipment. Since inspections are not required of vessels subject only to the compulsory requirements of the Bridge-to-Bridge Act, no forms for this specific purpose are required.

11. API fears that the proposed § 83.46(c) could be construed to mean that the forms referred to are to be used by all vessels subject to the Act regardless of whether they are subject to another radio law or treaty. Although the use of the word "also" in the third line has the effect of ne-

[1] See paragraph 6 of the Commission's notice of proposed rule making in Docket No. 19360 (FCC 71–1232) in which we stated that "this frequency (156.8 MHz) is being heavily used for routine calling, to the extent that it may not be sufficiently available for distress and safety communications."

[2] See paragraph 6 of the Commission's notice of proposed rule making in Docket No. 19360 (FCC 71–1232) in which we stated that "this frequency (156.8 MHz) is being heavily used for routine calling, to the extent that it may not be sufficiently available for distress and safety communications."



Either a permanently installed unit (left) or a portable system of bridge-to-bridge VHF–FM communications (right) will be required on many commercial vessels after January 1, 1973.

gating the possibility of such an interpretation, it would perhaps be preferable, in the interest of clarity, to expand the text in the manner suggested. The appendix has accordingly been so revised.

12. AIMS, NCMRC, AWO, WOC, and API appear to misunderstand the provisions of § 83.115(c). The log retention requirements of § 83.115(c) do not apply to bridge-to-bridge stations. The phrase "unless otherwise authorized by the applicable provisions of this part" at the beginning of the second sentence was added to remove bridge-to-bridge from this section. New § 83.115(e) is now the applicable provision that authorizes the place of retention of the log of a bridge-to-bridge station. The provision in § 83.115(c) with respect to filing "at an established shore office of the station licensee" remains unchanged.

13. NPMRC feels there is no need for a separate bridge-to-bridge log where the main ship station is in the wheelhouse. The Commission agrees that, provided the provisions of § 83.115 are followed, the bridge-to-bridge log may be part of the ship station log even as a bridge-to-bridge station may be considered part of the ship station. Similarly, there is no objection to the AIMS or ATA suggestions that entries may, if desired, be made part of the deck log. Collins' request that automated logging be permitted also raises no difficulty, subject of course to the same restriction.

14. UTC and AGCA believe unnecessary the requirement that a bridge-to-bridge operator have a restricted phone permit. Sections 849 and 852 of the ITU Radio Regulations require that the operator hold a certificate if his station operates on frequencies assigned for international use. The frequency in question is assigned to international use. The restricted phone permit is the least specialized and easiest certificate to obtain. It is the only case where the operator of a compulsory installation is not required to take an examination. If experience shows that this is not satisfactory, a requirement for a higher grade license may be established.

15. AIMS, API, AWO, and NPMRC all feel that safe navigation should take precedence over watch standing so that if a mate's other duties interfere with the effectiveness of the watch, the watch will be secondary. They suggest in concert that the last sentence in § 83.267 should end with the first appearance of the word "duties," in this way deleting the phrase "provided such other duties do not interfere with the effectiveness of the watch."

16. The Commission is of the opinion that whatever is prerequisite to safety cannot be slighted. If it is necessary that duties requisite to safety navigation be performed, obviously they must be performed. And, just as obviously, if to assure safety, a continuous and efficient watch must be maintained, then it must be maintained. The legislative history shows that a continuous watch was intended by the Congress. A predecessor bill with provision for breaking the watch at the discretion of the master was redrawn specifically to eliminate this option. The functioning of the bridge must be so organized as to accommodate both. As stated by AWO, "the monitoring of the radio and the navigation of the vessel go hand in hand."

17. NPMRC is concerned, too, about the impossibility of maintain-

ing a continuous watch while transmitting. The Commission for many years has taken the position that a continuous listening watch is maintained even though the transmitter is at times being operated on the same or on an adjacent channel, provided that the listening watch is effective at all times that the transmitter is not actually emitting. This may contribute to the clarification called for by R.F. with respect to this section.

18. With respect to paragraphs (a) and (b) of § 83.251, MMP and PSP wish to delete the word "Security" and make other minor changes in the wording. APA prefers to delete the subsections entirely. AIMS, AWO, API, NPMRC, and NCMRC suggest that substantially the same wording remain but only as guidelines. The Commission would be inclined to agree if it were not equally concerned about the unchecked growth of superfluous communications. Some measure of liberalization should, however, be permitted to add flexibility in the meeting of unforeseen situations and § 83.251 has been amended accordingly.

19. AIMS, API, and AWO suggest a fourth exception to be listed as § 83.251(c)(4), that the higher power be permitted when requested by a shore authority. Bridge-to-bridge communications are primarily ship-to-ship in nature; participation by shore facilities will be limited. Use of power greater than 1 watt must be strictly controlled in order to minimize congestion. The present exceptions appear ample.

20. Lorain questions the Commission's not requiring the use of call letters in calling. Present § 83.364(a) permits use of the ship's name in lieu of call letters uniquely on 156.65 MHz. Lorain further requests that vessels with equipment lacking the capability to reduce power to 1 watt be permitted the use of this equipment for at least a reasonable useful life expectancy. The Commission is of the opinion that restricting power on the bridge-to-bridge frequency is of primary importance in its effort to reduce unnecessary interference on what will necessarily be a much-used channel. New transmitters will, of course, not be affected, since the Commission has refused to type-accept transmitters lacking this capability since 1968.

21. With respect to proposed requirements for transmitters, several of the comments requested that the 1-watt power reduction capability not be required for hand-held, portable transmitters, or that, otherwise, provision be made to permit continued use of existing portable transmitters not meeting the power requirements of proposed § 83.713(b). The rules as adopted herein allow, under specific conditions, the use until January 1, 1974, of transmitters not meeting the power requirements of this paragraph. We do not feel that permanent exception for portable transmitters from these power requirements is warranted, however, inasmuch as it is contemplated that the 1-watt level will be the one normally used for all bridge-to-bridge transmissions. Permanent provision for some to exceed this limit would have the possibility of placing the effectiveness of the system in jeopardy. Attention also is invited to § 83.713(e) as adopted herein, which requires, for all transmitters type accepted after August 1, 1972, and intended to be usable for bridge-to-bridge stations, that the application for type acceptance include a showing of compliance with pertinent requirements of § 83.713 (a), (b), and (c) and §§ 83.721 and 83.723.

22. AIMS, AWO, and NCMRC, in directing their comments to § 83.351, feel that the use of the bridge-to-bridge channel should be restricted to those vessels required by law to stand a watch on it in addition to those other vessels showing a genuine need for a bridge-to-bridge frequency. We realize the dangers of overcrowding the channel, but the alternative of refusing a vessel an implement to increase its safety is not warranted. The Commission will rely on strict enforcement of its rules to inhibit superfluous communications.

23. AIMS, API, and LCA believe the wording of § 83.368(e)(i) to be ambiguous. Despite the language being no more than a repetition of the requirement for title III, parts II and III and Great Lakes vessels, with the exception that intercepted signals were not required to be logged, AIMS and API suggest a revision that would once again require intercepted signals to be logged. The Commission believes that experience with this language over many years renders unlikely the possibility of its being misunderstood, and that in the interest of uniformity it should in general be retained. The suggestion that intercepted distress messages be logged is, however, a worthy one and is joined in by Lorain. The words "and intercepted" are therefore introduced into the section.

24. AIMS and API feel that the log requirement should be limited to those periods when the vessel is operating under the Bridge-to-Bridge Act, except for distress entries under § 83.368(c)(1). For the most part the log, requirements only relate to those periods when the vessel is operating subject to the Bridge-to-Bridge Act; however, it is not feasible to so limit the log requirements because certain necessary information will have to be provided when the vessel is not subject e.g., maintenance and repairs to the radio.

25. APA wishes to make certain that the logs that are required will be simple; R.F. advises, "Most captains don't have time to keep a detailed log." With the exception of distress entries, a yearly installation or maintenance entry by a service man in addition to daily "on-off watch" and "equipment operating normally" statements are not considered detailed or burdensome.

26. UTC and GLT believe logs for bridge-to-bride radio stations are unnecessary. Section IV of Appendix 11 of the ITU radio regulations requires a log. The need for a log has become accepted by the maritime community in general and its usefulness, particu-

larly, after a distress incident is well established.

27. MMP and PSP feel that the conditions in § 83.368(e)(2) are more stringent than with respect to title III, part II radiotelephone stations. This is true. There is no requirement for a continuous watch on 2182 kHz while working on an associated frequency. But the purpose of the Bridge-to-Bridge Act would be defeated if it were permitted to break the watch in order to work on another frequency. This matter has been discussed above in somewhat greater detail in the discussion of § 83.207. The log provision simply reflects the greater importance attached to continuity in watch standing on the bridge-to-bridge frequency.

28. NCMRC suggests that the rules apply to towing vessels only while they are engaged in towing. The Act makes clear in section 3(3) that by definition a towing vessel is subject only when it is towing a vessel. This definition is in § 83.2(o)(6).

29. AIMS, ARA, and AWO suggests that it be made permissible for a U.S. vessel whose bridge-to-bridge station is inoperative to utilize the pilot's or another's transceiver. Any licensed portable set may be utilized under these circumstances so long as they operate in accordance with the Commission's rules governing the class of station concerned.

30. NPMRC wants assurances that any type-accepted bridge-to-bridge equipment can freely be substituted for any other type accepted bridge-to-bridge equipment. This may, in particular, be important for maintenance purposes. The Commission's rules do not prohibit such substitution. It is not anticipated that equipment will be licensed either by type or serial number. The only thing relating the particular equipment to the particular ship will be the installation details entered in the log.

31. AIMS and NCMRC suggest that there be added at the end of § 83.713(a) the phrase "when energized by the bridge-to-bridge energy source as defined under § 83.717(a)" in order to make this provision analogous to the one for receivers, § 83.715(b). It is felt this suggestion adds consistency to the regulations and the addition accordingly appears below.

32. NPMRC feels that there should be an amortization of at least 7 years for equipment installed before implementation of the Act. The Commission finds that blanket grandfathering of a sort where the characteristics of the equipment and hence its ability to degrade the systems is not even considered, can serve no useful purpose. The system must be kept healthy; where inequities are experienced, relief should be sought in other ways such as a waiver of the rules for good cause shown.

33. LCA suggests that the requirement for on-board measurement be limited to power output and receiver sensitivity. Establishment of measurement and regularization of inspection procedures is not the subject of this proceeding. In all likelihood such procedures will be established at a later date and after field experience with respect to this type of station has been gained. With regard to LCA's suggestion that the minimum-maximum power be set at 15–25 watts, it is pointed out the IMCO has passed and the United States has agreed to a stipulation not to require more than 10 watts in bridge-to-bridge transmitters.

34. ARA suggests that a final sentence, taken directly from the Act be added to § 83.725. The sentence reads "The master shall exercise due diligence to restore it or cause it to be restored to effective operating condition at the earliest practicable time." The suggestion has merit and the sentence has been added to the previously proposed version of § 83.125.

35. MMP and PSP read paragraph 3 of the NPRM to mean that a pilot may, with the permission of the master, use his own bridge-to-bridge portable for bridge-to-bridge communications on American as well as on foreign vessels. This is correct.

36. In view of the comments of several parties, particularly NPMRC, ITT Mackay, API, and UTC, a restatement of the Commission's policy concerning the use of single-channel equipment versus multi-channel equipment appears appropriate.

(a) Single-channel equipment or multi-channel equipment may be used to satisfy the bridge-to-bridge requirements.

(b) A vessel subject to the bridge-to-bridge rules with a single-channel set having no other VHF maritime capability on board will not have to monitor 156.8 MHz. It will operate exclusively on the dedicated bridge-to-bridge channel (156.65 MHz).

(c) A subject vessel with a single-channel set for bridge-to-bridge and a multi-channel set on board will have to maintain a continuous listening watch on both 156.8 and 156.65 MHz when operating pursuant to the bridge-to-bridge requirements.

(d) A subject vessel with multi-channel equipment will be required to maintain a continuous listening watch on both 156.8 and 156.65 MHz when operating pursuant to the bridge-to-bridge requirements.

(e) When a bridge-to-bridge watch is required the watch shall be continuous even though the receiver may be muted during brief periods when a transmitter is radiating energy.

(f) In order to provide the required bridge-to-bridge continuous listening watch where a multi-channel installation is utilized, a minimum of at least two VHF receivers is required. In those cases where the vessel has on board a single channel VHF set and no other VHF capability only one VHF receiver is required.

(g) Vessels when subject to bridge-to-bridge requirements shall be expected to use the navigational channel (156.65 MHz) as their primary calling and working channel for the exchange of navigational information.

(h) The installation of multi-channel equipment with the capability of simultaneously monitoring both 156.8 and 156.65 MHz on the bridge nf a vessel is the installation consid-

ered by the Commission to be the most desirable from an operational and safety point of view. It has the advantage of maintaining the commonality of a guard on the distress, safety and calling channel (156.8 MHz) on all vessels.

37. It has come to the attention of the Commission since the notice was issued that there are slightly more than 100 limited coast stations authorized to use 156.65 MHz with a power of 50 watts. Many of these stations are located in major ports—areas where bridge-to-bridge requirements will be in effect. The use of 50 watts power in port areas could be deleterious to the bridge-to-bridge system and it is a power that is not considered necessary for satisfactory operation by limited coast stations. In order to be compatible with bridge-to-bridge operations a 10-watt maximum power will be established with a requirement that the transmitter have a capability of 1 watt operation. Existing operations will be reviewed at renewal time in accordance with this policy.

38. Motorola, Inc., comments oppose adoption of the proposed receiver specifications on the grounds that, (1) their adoption at this time for this one service would be premature, because of possible inconsistence with receiver specifications for other services arising from future Commission actions; (2) even if there were compelling reasons for considering receiver specifications for this purpose now, a piecemeal approach is not desirable and, (3) that, in general, the imposition of minimum equipment standards by Government has a deleterious effect on improving the state of the art, manufacturers being reluctant to design and produce equipment which exceeds Government requirements. As an example to support this contention, Motorola alleges that the television receiver industry has little incentive to produce receivers capable of receiving pictures with less than 36 MHz separation. It is our view that this argument against our adoption of receiver specifications overlooks the fact that the radiotelephone equipment under consideration here is required by law to be installed and used for safety purposes. Under these circumstances, the performance and effectiveness of the receiver takes on an importance which warrants regulatory attention to its characteristics. The possibility of adoption of standards in the future for noncompulsory receivers used in other services should not delay action considered necessary by the Commission now to carry out its responsibility under the Vessel Bridge-to-Bridge Radiotelephone Act.

39. Nevertheless, we note that several of the comments pointed out that no specific procedure was proposed as to how the Commission would make a determination that receivers comply with the technical specifications in proposed § 83.715(c). Some comments suggested that the type acceptance process be utilized while others recommended type approval. (Both procedures are set forth in Subpart F of Part 2 of the Commission's rules.) It is quite understandable that, under the rules as proposed, users and dealers may not feel assured that receivers are capable of compliance with these specifications absent a determination of such compliance by the Commission. Obviously, the specifications set forth in proposed § 83.715(c) would be impractical for the Commission to enforce solely by means of tests or inspections aboard the vessel (with the possible exception of sensitivity as suggested by LCA) or at a dealer's establishment, but probably could be applied effectively only through appropriate procedures required of the manufacturer. Therefore, pending possible consideration of such procedures for these and other receivers in the future rule making proceeding, we will recommend, but will not require compliance with the specifications set forth in § 83.715(c). A footnote to this effect has been added to § 83.715(c) as adopted herein.

40. Several comments called attention to the disparity between the proposed specifications for portable equipment and for nonportable equipment, and recommended that, insofar as the receiver is concerned, the specifications applicable to portable receivers be equally stringent with those for nonportable units. It is unfortunate that such a disparity exists, but at the time of issuance of the proposal, practical necessity and economic considerations appeared to dictate that requirements be less stringent for portable receivers. We note, in particular, the difference in technical standards applicable under Electronic Industries Association (EIA) Standards to portable and nonportable receivers used in the land mobile services. (Reference: EIA Standards RS–204 and RS–316.) For usable sensitivity, although § 83.519(d) already requires 1 microvolt, various comments in this docket suggested values ranging from 0.5 to 2 microvolts for all receivers. For adjacent channel selectivity and desensitization, intermodulation spurious response attenuation, and spurious response attenuation, values for portable receivers were suggested which are more stringent than those proposed. For spurious response attenuation, some comments suggested 75 db for all receivers rather than the proposed 85 db for nonportable, and 50 db for portable receivers. Also, several comments suggested requirements for audio output power. Thus, we do not find close agreement in the comments as to the exact values for the specifications, especially for portable equipment. However, one conclusion which appears to be justified is that the specifications for portable receivers should be no less stringent than those proposed. In view of this, and in view of the fact that the Commission for the time being will not enforce these specifications, the specifications as proposed are being placed in the rules. If, in the future, a procedure is adopted for Commission approval of receivers, further consideration also will be given to the specification values and

to amortization of noncomplying equipment in any rule making proceeding which might consider this matter.

41. With respect to the charging indicator for rechargeable batteries, AIMS, API, AWO, and NCMRC want the words "rate and polarity" deleted from the last sentence of § 83.717(c) to permit the use of a lamp as an indicator of charging. ITT Decca, too, feels the metering provision should be eliminated. With increased use of nickel-cadmium batteries, in particular, the charging current becomes diminishingly useful as an indication of the state of charge of the batteries. Accordingly, a lamp indicator will be construed as meeting the requirement of the indicating device referred to in § 83.717(c). The words "rate and polarity of the" are, accordingly, deleted from § 83.717 (c) as originally proposed.

42. ITT Decca and ITT Mackay suggest that portable bridge-to-bridge equipment permanently associated with a vessel be provided with a connector for an external antenna and that the vessel be provided with an antenna similar to that required for nonportable equipment, to which antenna the portable unit may be connected during a normal listening watch. We believe this suggestion has merit and have revised § 83.719, as herein adopted, to include it.

43. Several of the comments objected to the proposed requirement (§ 83.721) for a device to provide visual indication whenever the transmitter is supplying power to the antenna. The reasons for this objection were doubt about its interpretation and the fact that most transmitters do not have this feature, and to provide it would involve difficulties, particularly power loss for portables. It was also pointed out that an indication of power on such a device could be false under some circumstances. Accordingly, we have modified the rule to delete the requirement for portables and to permit use of a pilot lamp or meter in lieu of the requirement of the original proposal.

44. The suggestions in several of the comments that use of scanning type receivers be permitted have been noted. The use of such receivers for bridge-to-bridge stations is not provided for under the rules as adopted. To permit the use of such receivers would raise questions associated with the watch requirements of other national statutes and international treaties which are outside the scope of this proceeding.

45. The Vessel Bridge-to-Bridge Act applies to both U.S. Government vessels and non-Government vessels. The effective implementation of the Act requires that all vessels subject to the Act operate under essentially the same requirements. The Commission, however, does not view the rules adopted herein as binding on Government vessels in all particulars.

46. For the reasons set forth in the foregoing paragraphs: *It is ordered,* Pursuant to the authority contained in sections 4(i) and 303(r) of the Communications Act of 1934, as amended, and Section 8(a) of the Vessel Bridge-to-Bridge Radiotelephone Act that effective January 1, 1973, Parts 81 and 83 of the Commission's rules are amended as set forth below.

47. *It is further ordered,* That the proceedings in Docket No. 19343 are terminated.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1082; 47 U.S.C. 154, 303)

Adopted: May 24, 1972.
Released: May 31, 1972.

FEDERAL COMMUNICATIONS COMMISSION[5]

[SEAL] BEN F. WAPLE,
Secretary.

COMMENTATORS

FORMAL COMMENTS FILED PRIOR TO MARCH 25, 1972

American Institute of Merchant Shipping (AIMS).
American Pilots' Association (APA).
American Radio Association (ARA).
American Waterways Operators, Inc. (AWO).
Central Committee on Communications Facilities of the A.P.I.
Collins Radio Co.
Great Lakes Towing Co.
ITT Decca Marine, Inc.
ITT Mackay Marine.
International Organization of Masters, Mates and Pilots.
Lake Carriers' Association (LCA).
Lorain Electronics Corp.
Motorola, Inc.
National Marine Electronics Association, Inc.
Northern California Marine Radio Council (NCMRC).
North Pacific Marine Radio Council (NPMRC).
Puget Sound Pilots.
R. L. Drake Co.
R. F. Communications, Inc. (RF).
Utilities Telecommunications Council.
Waterways Operators Conference.

INFORMAL COMMENTS FILED PRIOR TO MARCH 25, 1972

Associated General Contractors of America.
Department of Transportation, USCG.
International Organization of Masters, Mates and Pilots.
Lorain Electronics Corp.
Southern California Marine Radio Council.

FORMAL COMMENTS FILED AFTER MARCH 25, 1972 (REOPENED PROCEEDING)

AFL–CIO Maritime Committee.
American Pilots' Association (APA).
American Radio Association, AFL–CIO, Radio Officers Union.
American Waterways Operators, Inc. (AWO).
Central Committee on Communications Facilities of A.P.I.
Dillingham Corp.—Maritime Services.
Humble Communications Co.
International Organization of Masters, Mates and Pilots.
William N. Krebs.
Lake Carriers Association (LCA).
Lorain Electronics Corp.
Northern California Marine Radio Council (NCMRC).
North Pacific Marine Radio Council (NPMRC).
Puget Sound Pilots.

INFORMAL COMMENTS FILED AFTER MARCH 25, 1972 (REOPENED PROCEEDING)

Advanced Technology Systems, Inc.
American Institute of Merchant Shipping.
American Tug and Barge Co.
Chevron Shipping Co.
Connolly-Pacific Co.
Garmatz, Hon. Edward A.

[5] Commissioner Johnson concurring in the result.

Jacobson Pilot Service, Inc.
Joint Executive Committee (Philadelphia).
Magnuson, Senator Warren G.
Marine Exchange (San Francisco).
Marine Radio Service.
Mystic Steamship Co.
Pacific Towboat and Salvage Co.
Port of Los Angeles.
San Francisco Bar Pilots.
San Pedro Tug Boat Co.
Star-Kist Foods, Inc.
Telecommunications ARCO.
Tug Communications, Inc.
Wilmington Transportation Co.

A. Part 81, Stations on Land in the Maritime Services.

1. In § 81.3, new paragraph (s) is added to read as follows:

§ 81.3 Maritime mobile service.

* * * * *

(s) *Port operations service.* A maritime mobile service in or near a port, or in locks or waterways, between coast stations and ship stations or between ship stations, in which messages are restricted to those relating to the operational handling, the movement and the safety of ships and, in emergency, to the safety of persons. Messages which are of a public correspondence nature shall be excluded.

2. In § 81.356, paragraph (b) (10) is amended to read as follows:

§ 81.356 Assignable frequencies in the band 156–162 MHz.

* * * * *

(b) * * *

(10) Primarily, ship to ship. On a secondary basis, available for coast to ship. Use of this frequency is limited exclusively to navigational communications. Under normal operating conditions a power not to exceed 1 watt shall be used and under no circumstances may the power exceed 10 watts.[4]

* * * * *

B. Part 83, Stations on Shipboard in the Maritime Services.

1. In § 83.1, paragraph (a) is amended to read as follows:

§ 83.1 Basis and purpose.

(a) The basis for the rules following in this part is the Communications Act of 1934, as amended, the Vessel Bridge-to-Bridge Radiotelephone Act, and applicable treaties and agreements to which the United States is a party.

* * * * *

2. In § 83.2, paragraph (o) new subparagraphs (5) and (6) are added to read as follows:

§ 83.2 General.

* * * * *

(o) * * *

(5) *Power-driven vessel.* Any vessel propelled by machinery.

(6) *Towing vessel.* Any commercial vessel engaged in towing another vessel astern, alongside or by pushing ahead.

* * * * *

3. In § 83.3, paragraphs (c), (d), (e), (f), (g), (h), (i), and (j) are redesignated (d), (e), (f), (g), (h), (i), (j), and (k), respectively, and new paragraphs (c), (l), and (m) are added to read as follows:

* * * * *

§ 83.3 Maritime mobile service.

(c) *Port operations service.* A maritime mobile service in or near a port, or in locks or waterways, between coast stations and ship stations or between ship stations, in which messages are restricted to those relating to the operational handling, the movement and the safety of ships and, in emergency, to the safety of persons. Messages which are of a public correspondence nature shall be excluded.

(d) *Mobile station.* A station in the mobile service intended to be used while in motion or during halts at unspecified points.

(e) *Ship station.* A mobile station in the maritime mobile service located on board a vessel, other than a survival craft, which is not permanently moored.

(f) *Public ship station.* (1) A ship station open to public correspondence.

(2) Public ship stations authorized for public correspondence are further classified according to their hours of service as designated in this section:

(i) *First category.* These stations carry on a continuous service for public correspondence.

(ii) *Second category.* These stations maintain a service of 16 hours per day for public correspondence as designated in Appendix 12, Radio Regulations, Geneva, 1968, or, in cases of voyages of short duration, as otherwise designated by the Commission in accordance with those regulations.

(iii) *Third category.* These stations maintain a service of 8 hours per day for public correspondence as designated in Appendix 12, Radio Regulations, Geneva, 1968, or, in cases of voyages of short duration, as otherwise designated by the Commission in accordance with those regulations.

(iv) *Fourth category.* These stations maintain a service of public correspondence, the duration of which is prescribed but is less than that of stations of the third category, or is not prescribed but is determined by the master of the vessel pursuant to his authority under section 360 of the Communications Act.

(g) *Limited ship station.* A ship station not open to public correspondence.

(h) *Marine-utility ship station.* A ship station, readily portable for use as a limited ship station on mobile vessels within a designated local area.

(i) *Marine-utility coast station.* A coast station, readily portable for use as a limited coast station at specified points ashore within a designated local area.

(j) *Marine-utility station.* A coast or ship station in the maritime mobile service having a frequency assignment which is available for both marine-utility coast stations and marine-utility ship stations, and licensed under one station authorization to operate as either a marine-utility coast station or a marine-utility ship station according to its location, pursuant to the provisions of paragraphs

[4] Applies to 156.65 MHz—Ed.

(h) and (i) of this section, at the time it is being operated.

(k) *Survival craft station.* A mobile station in the maritime or aeronautical mobile service intended solely for survival purposes and located on any lifeboat, liferaft or other survival equipment.

(l) *Coast station.* A land station in the maritime mobile service.

(m) *Bridge-to-bridge* station. A ship station operating in the Port Operations Service in which messages are restricted to navigational communications and which is capable of operation from the ship's navigational bridge or, in the case of a dredge, from its main control station operating on frequency or frequencies in the 156–162 MHz band.

§ 83.6 [Amended]

4. In § 83.6, paragraph (h) is deleted and designated [Reserved].

5. In § 83.46, a new paragraph (e) is added to read as follows:

§ 83.46 Application for inspection and certification.

* * * * *

(e) The FCC Forms specified in paragraphs (b), (c), and (d) of this section shall be used to apply for inspections of bridge-to-bridge radio stations on board vessels which are subject to the provisions of the Vessel Bridge-to-Bridge Radiotelephone Act when they are additionally subject, respectively, to (1) either or both the Safety Convention and Part II of Title III of the Communications Act, or (2) to the Great Lakes Radio Agreement, or (3) to Part III of Title III of the Communications Act.

6. In § 83.49, a new paragraph (d) is added to read as follows:

§ 83.49 Application for exemption.

* * * * *

(d) This Commission does not have statutory authority to issue exemptions from the provisions of the Vessel Bridge-to-Bridge Radiotelephone Act. Applications for exemption from the provisions of the Vessel Bridge-to-Bridge Radiotelephone Act should be forwarded directly to the Commandant, U.S. Coast Guard, Washington, D.C. 20591, for action.

7. In § 83.115, paragraph (c) is amended and a new paragraph (e) is added, to read as follows:

§ 83.115 Retention of radio station logs.

* * * * *

(c) Ship station logs shall be fully completed at the end of each voyage and before the operator(s) (or other person(s) responsible under the applicable provisions of this part) leave the ship. Unless otherwise authorized by the applicable provisions of this part, the radio log currently in use shall be kept by the licensed operator(s) of the station and during use shall be located at the principal radio operating room of the vessel. At the conclusion of each ocean voyage terminating at a port of the United States (includes Puerto Rico, and Virgin Islands), the original radio log (or a duplicate thereof) dating from the last departure of the vessel from a U.S. port shall be retained under proper custody on board the vessel for a sufficient period of time (not more than 24 hours) to be available for inspection by duly authorized representatives of the Commission. After retention on board the vessel as herein stipulated, the original log (and the duplicate log if provided) may be filed at an established shore office of the station licensee, and shall be retained as stipulated by paragraph (a) of this section.

* * * * *

(e) The log of the bridge-to-bridge station shall be retained at the principal operating position of the bridge-to-bridge station on board the vessel for a period of not less than 1 month from the date of entry. After the 30-day period, the log may be removed from the bridge-to-bridge station and be filed at a place where it will be readily available to an authorized representative of the Commission upon request, and shall be retained as stipulated by paragraph (a) of this section.

8. A new § 83.158 is added to read as follows:

§ 83.158 Qualified operator required for ships subject to Radiotelephone Act.

Each ship of the United States which in accordance with the provisions of the Vessel Bridge-to-Bridge Radiotelephone Act is equipped with a radiotelephone installation, shall have a qualified operator at all times in attendance at the principal operating position of the required bridge-to-bridge station while the watch is required. Such operator shall, as a minimum, hold a restricted radiotelephone operator permit or higher class of operator authorization.

9. A new § 83.207 is added to read as follows:

§ 83.207 Watch required by the Vessel Bridge-to-Bridge Radiotelephone Act.

All vessels, dredges, and floating plants subject to the Vessel Bridge-to-Bridge Radiotelephone Act shall, while being navigated upon the navigable waters of the United States, inside the lines established pursuant to section 2 of the Act of February 19, 1895 (28 Stat. 672), as amended, keep a continuous and efficient watch on the designated navigational frequency. Such watch shall be maintained by the master or person in charge of the vessel or the person designated by the master or person in charge to pilot or direct the movement of the vessel. The person standing watch may perform other duties provided such other duties do not interfere with the effectiveness of the watch.

10. A new § 83.251 is added to read as follows:

§ 83.251 Bridge-to-bridge communication procedure.

(a) Notwithstanding § 83.178, vessels, dredges, and floating plants subject to the Vessel Bridge-to-Bridge Radiotelephone Act transmitting on the designated navigational frequency shall initiate communications on this frequency in a format similar to those given below:

(1) This is the (name of vessel). My position is (give readily identi-

fiable position and, if useful, course and speed) about to (describe contemplated action). Out.

(2) Vessel off (give a readily identifiable position). This is (name of vessel) off (give a readily identifiable position). I plan to (give proposed course of action). Over.

(3) (Coast station), This is (vessel's name) off (give readily identifiable position), I plan to (give proposed course of action). Over.

(b) Vessels acknowledging receipt shall answer "(Name of vessel calling). This is (Name of vessel answering). Received your call" and follow with an indication of their intentions. Communications shall terminate when each ship is satisfied that the other no longer poses a threat to its safety and is ended with "Out".

(c) Use of power greater than 1 watt in a bridge-to-bridge station shall be limited to the following three situations:

(1) Emergency.

(2) Failure of the vessel being called to respond to a second call at low power.

(3) A broadcast call as in paragraph (a)(1) of this section in a blind situation, e.g., rounding a bend in a river.

11. In § 83.351, paragraph (b) (59) is amended to read as follows:

§ 83.351 Frequencies available.

* * * * *

(b) * * *

(59) Primarily, ship to ship. On a secondary basis, available for ship to coast. Use of this frequency is limited exclusively to navigational communications.

* * * * *

12. In § 83.368, paragraph (e) and (f) are redesignated (f) and (g) and a new paragraph (e) is added to read as follows:

§ 83.368 Radiotelephone station log.

* * * * *

(e) The log of the bridge-to-bridge station required by the Vessel Bridge-to-Bridge Radiotelephone Act shall include the following entries:

(1) All radiotelephone distress and alarm signals and communications transmitted or intercepted, the text in as complete form as possible of distress messages and distress communications, and any information connected with the radio service which may appear to be of importance to maritime safety, together with the time of such observation or occurrence, the frequencies used, and the position of the ship or other mobile unit in need of assistance if this can be determined.

(2) The times when the required watch is begun, interrupted, and ended. When the required watch is interrupted for any reason the reason for such interruption shall be stated.

(3) A daily statement concerning the operating condition of the required radiotelephone equipment, as determined by either normal communication or test communication. Where the equipment is found not to comply with the applicable provisions of this part, the log shall contain a statement as to the time the condition was discovered and the time it was brought to the master's attention.

(4) Pertinent details of all installations, service, or maintenance work performed which may affect the proper operation of the station. The entry shall be made, signed, and dated by the responsible licensed operator who supervised or performed the work, and unless such operator is employed on a full-time basis and his operator license is properly posted at a station on board the ship, such entry shall include his mail address and the class, serial number, and expiration date of his operator license.

(f) The log of ship radiotelephone stations not required by law to be provided shall include the following entries:

(1) The entries specified by subparagraph (1) of paragraph (d) of this section;

(2) The entries specified by subparagraphs (2) and (10) of paragraph (b) of this section.

(g) The log of marine utility stations on board ships shall include the entry specified by subparagraph (10) of paragraph (b) of this section.

13. A new Subpart X is added to read as follows:

Subpart X—Radiotelephone Stations Provided for Compliance With the Vessel Bridge-to-Bridge Radiotelephone Act

Secs.

AUTHORITY: The provisions of this Subpart X are issued under secs. 4, 303, 48 Stat., as amended, 1066, 1082; 47 U.S.C. 154, 303.

Subpart X—Radiotelephone Stations Provided for Compliance With the Vessel Bridge-to-Bridge Radiotelephone Act

§ 83.701 Applicability.

The Vessel Bridge-to-Bridge Radiotelephone Act and the regulations of this part made pursuant thereto, apply to the vessels, dredges, and floating plants that are upon the navigable waters of the United States inside the lines established pursuant to section 2 of the Act of February 19, 1895 (28 Stat. 672), as amended, described as follows:

(a) Every power-driven vessel of 300 gross tons and upward while navigating;

(b) Every vessel of 100 gross tons and upward carrying one or more passengers for hire while navigating;

(c) Every towing vessel of 26 feet or over in length, measured from end to end over the deck excluding sheer, while navigating; and

(d) Every dredge and floating plant engaged, in or near a channel or fairway, in operations likely to restrict or affect navigation or other vessels: *Provided, however,* That an

unmanned or intermittently manned floating plant under the control of a dredge shall not be required to have a separate radiotelephone capability.

§ 83.703 Bridge-to-bridge station.

Vessels subject to the Vessel Bridge-to-Bridge Radiotelephone Act shall be provided with a bridge-to-bridge station comprising a bridge-to-bridge radiotelephone installation and such accessories as may be needed to enable the vessel to participate fully, efficiently, and readily in navigational communications. This required radiotelephone installation shall be associated continuously with the ship even though a portable installation is used: *Provided, however,* That foreign vessels coming in U.S. waters where a bridge-to-bridge station is required may fulfill this requirement by use of portable equipment brought on board by the pilot.

§ 83.705 Inspection of bridge-to-bridge station.

The required bridge-to-bridge radiotelephone station will be inspected on vessels subject to regular inspections pursuant to the requirements of title III Parts II and III of the Communications Act, the Safety Convention or the Great Lakes Agreement at the time of the regular inspection. If after such inspection the Commission determines that all relevant provisions of the Bridge-to-Bridge Radiotelephone Act, the rules of the Commission made pursuant thereto and the station license are complied with, an endorsement will be made on the appropriate document. The validity of the endorsement will run concurrently for the period of the regular inspection. Each vessel so inspected shall carry a certificate with a valid endorsement while subject to the Bridge-to-Bridge Act. All other required bridge-to-bridge stations will be inspected from time to time.

§ 83.709 Bridge-to-bridge radiotelephone installation.

(a) The bridge-to-bridge radiotelephone installation required by § 83.703 shall include a transmitter, receiver, antenna, and source of energy.

(b) Use of the bridge-to-bridge transmitter on the navigational frequency shall be restricted to the master or person in charge of the vessel, or the person designated by the master or person in charge to pilot or direct the movement of the vessel. Communications shall be of a navigational nature exclusively.

(c) Nonportable equipment, when used, shall be arranged to facilitate repair. Adequate protection shall be provided for all equipment against the effects of vibration, moisture, and temperature, as well as such excessive currents and voltages as might cause damage to the components thereof.

§ 83.711 Principal operating position.

The principal operating position of the vessel's bridge-to-bridge station shall be the vessel's navigational bridge or, in the case of dredges, its main control station. If the radiotelephone installation can be operated from any location other than the principal operating position, a direct and positive means shall be provided at the principal operating position to take immediate and full control of the installation at all times.

§ 83.713 Bridge-to-bridge transmitter.

(a) The transmitter referred to in § 83.709 of this part shall be capable of effective transmission of F3 emission on the navigational frequency specified in § 83.351.

(b) Each nonportable transmitter shall have a carrier power of at least 8 watts. Each portable transmitter shall have a carrier power of at least 0.75 watt. Each nonportable transmitter, and each portable transmitter having more than 1 watt carrier power, shall have provision for readily reducing the carrier power to a value not less than 0.75 watt and not more than 1 watt. The maximum power of all transmitters shall be not more than 25 watts: *Provided, however,* That transmitters which do not meet the requirements of this paragraph which were type accepted prior to September 3, 1968, and first installed aboard a ship not later than January 1, 1970, may continue to be used until January 1, 1974.

(c) The transmitter shall be adjusted so that the transmission of speech normally produces peak modulation within the limits 75 percent and 100 percent.

(d) A nonportable transmitter shall be considered as capable of complying with the power output requirement specified in paragraph (b) of this section when:

(1) The transmitter is capable of being adjusted for efficient use with an actual ship station transmitting antenna meeting the requirements of § 83.719; and

(2) The transmitter has been demonstrated, or is of a type which has been demonstrated, to the satisfaction of the Commission as capable, with normal operating voltages applied, of delivering not less than 8 watts of carrier power into 50 ohms effective resistance on the navigational frequency specified in § 83.351: *Provided, however,* That an individual demonstration of the power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required whenever in the judgment of the Commission this is deemed necessary; and

(3) It is type accepted as required by § 83.139.

(e) Portable transmitters shall be type accepted as required by § 83.139. For transmitters type accepted after August 1, 1972, intended to be usable for the purpose of the subpart, the application for type acceptance shall include a showing of compliance with the pertinent requirements of paragraphs (a), (b), and (c) of this section, and §§ 83.721 and 83.723, in addition to all other applicable requirements. Additionally, an individual demonstration of the communication capability of a licensed transmitter as used on board ship may be required whenever, in the judgment of the Commission, this is deemed necessary.

§ 83.715 Bridge-to-bridge receiver.

(a) The receiver used for maintaining the watch required by § 83.207 shall be capable of effective reception of class F3 emmission (emission designator 16F3) on the navigational frequency specified in § 83.351; in the case of nonportable installations, it shall be connected to the antenna system specified by § 83.719.

(b) The receiver referred to in paragraph (a) of this section shall be capable of efficient operation when energized by the bridge-to-bridge energy source.

(c) The receiver referred to in paragraph (a) of this section shall comply with the following technical requirements:

(1) The frequency stability shall be within 0.0001 percent;

(2) The usable sensitivity shall be 0.5 microvolt, maximum, for nonportable receivers, and 1 microvolt, maximum, for portable receivers;

(3) The adjacent channel selectivity and desensitization shall be 70 db, minimum, for nonportable receivers, and 40 db, minimum, for portable receivers;

(4) The modulation acceptance bandwidth shall be ±7 kHz, minimum;

(5) Spurious response attentuation shall be 85 db, minimum, for nonportable receivers and 50 db, minimum, for portable receivers;

(6) The intermodulation spurious response attenuation shall be as follows:

Desired input microvolts, signal reference level at receiver input terminals	Minimum requirement: Intermodulation spurious response attenuation	
	Nonportable	Portable
At usable sensitivity of receiver	60 db	40 db
26 db above usable sensitivity of receiver	43 db	----
46 db above usable sensitivity of receiver	30 db	----

(7) Audio frequency response shall be as follows:

(i) In nonportable receivers normally used with a loudspeaker it shall not vary more than +2 to −8 db from a standard 6 db per octave deemphasis curve over the frequency range 300 to 3000 Hz.

(ii) In nonportable receivers normally used with a headphone or to feed a line it shall not vary more than +1 to −3 db from a standard 6 db per octave deemphasis curve over the frequency range 300 to 3000 Hz. The reference frequency shall be 1000 Hz.

(iii) In portable receivers it shall not vary more than +2 to −8 db from a standard 6 db per octave deemphasis curve over a frequency range of 300 to 3000 Hz. The reference frequency shall be 1000 Hz.

(iv) In receivers intended to operate with special devices, such as selective signaling apparatus, it shall be adequate to assure proper operation of the specific apparatus, in addition to the response required by subdivision (i), (ii), or (iii), of this subparagraph, as appropriate,[5] 11159.

(d) The technical characteristics for receivers as specified in paragraph (c) of this section, and other terms used in specifying these characteristics are defined and measured as follows:

(1) The terms "standard input source" and "input microvolts", as used in this section, are defined as follows: A standard input signal source is a calibrated radio frequency generator, together with any associated output transmission line and connectors. [Such a system used for testing nonportable receivers has a total resistance (internal resistance of the generator plus resistance of the transmission line) equal to 50 ohms. For portable receivers, the internal impedance of the signal generator is equal to the input impedance of the receiver at the antenna terminal or is built out to this impedance with an external resistor.] Its output voltage is measured across the output terminals of the system when they are open circuited. One-half of the open circuit output voltage so measured is called "input microvolts" to the receiver when the input terminals of the receiver are connected to the system. Unless otherwise specified, the frequency of the generator is adjusted to the center frequency of the channel on which the receiver is intended to operate. A standard input signal source cannot be used on receivers which are not provided with an external antenna connection.

(2) The term SINAD as used in this section is defined as follows: The term SINAD is an abbreviation for "signal plus noise plus distortion to noise plus distortion ratio," expressed in db, normally measured at the audio output terminals of a radio receiver. It is a measure of audio output signal quality for a given receiver audio power output level.

(3) Frequency stability of a radio receiver is a measure of its ability to remain tuned to a specified desired radio channel or frequency, and is the maximum excursion of the resonant frequency of the receiver from the center frequency of the channel on which the receiver is intended to operate. The receiver frequency stability is expressed either as a percentage, or in parts per million, with reference to the center frequency of the channel on which the receiver is intended to operate. The frequency stability is measured with variation in primary supply voltage over the range from 85 percent to 115 percent of the rated value and over the ambient temperature range from −20° to +50° centigrade.

(4) The usable sensitivity of a radio receiver is the minimum value

[5] At this time, no procedure is specified for a determination by the Commission that receivers meet the specifications of paragraph (c) and the subparagraphs thereunder of this section. Pending possible consideration of such a procedure in future rule making proceedings, the Commission will not require compliance with these specification but recommends that they be met by receivers in bridge-to-bridge stations.

of modulated radio frequency input signal which will produce at least 50 percent of the receiver's rated audio frequency power output with a 12 db SINAD under the following test conditions: A standard input signal source is connected to the input terminals of the receiver, with 1000 input microvolts to the receiver, and 1000 Hz modulation at ±3.33 kHz frequency deviation. Connected to the receiver output terminals are a matched, resistive load, an output indicator, and a distortion meter incorporating a 1000 Hz, band elimination filter. These conditions being achieved, the receiver volume control is adjusted for rated power output, after which the attenuation of the input signal is adjusted until the SINAD is 12 db. No further adjustment of the volume control is to be made. Under these conditions, the value of the input microvolts to the receiver is specified as the usable sensitivity of the receiver. However, if at least 50 percent of the rated audio output power is not being produced, the radiofrequency input signal must be increased until 50 percent of the rated audio output power is obtained; in this case, the value of input microvolts needed to produce 50 percent of the rated audio output power is specified as the usable sensitivity.

(5) Adjacent channel selectivity and desensitization is a measure of the ability of a radio receiver to receive a desired, modulated signal in the presence of undesired, modulated signals differing in frequency from the desired signal by the width of one radio frequency channel (25 kHz in the maritime services in the band 156–162 MHz). It is the ratio, expressed in db, of the power of the undesired signal to the power of the desired signal at which the SINAD ratio is degraded from 12 db to 6 db in the following test procedure: The receiver output is terminated in a matched, resistive load, provided with an output indicator. Two signal generators are equally coupled to the receiver input terminals through a suitable matching network. Signal generator No. 1, with 1000 Hz modulation at ±3.33 kHz frequency deviation, is set up in the manner described in subparagraph (4) above, of this paragraph (for determining the usable sensitivity of the receiver). Signal generator No. 2 with 400 Hz modulation at ±3.33 kHz frequency deviation, is then turned on and tuned first to the high, then to the low adjacent channel. Its signal level as provided to the receiver input terminals is adjusted until the SINAD is 6 db. The adjacent channel selectivity is the ratio in db, of the amplitude of signal No. 2 to signal No. 1. If the ratios for the high side and low side adjacent channels are different, the smaller ratio is specified.

(6) Modulation acceptance bandwidth is a measure of the frequency deviation of a received signal which a radio receiver will accept, without excessive degradation, at a radiofrequency input signal level 6 db greater than its measured usable sensitivity. The following test procedure is used: A standard input signal source is connected to the input terminals of the receiver. The signal generator, adjusted to the receiver resonant frequency, is set for 1000 input microvolts to the receiver, 1000 Hz modulation, with frequency deviation ±3.33 kHz. Connected to the receiver output are a matched, resistive load, an output indicator, and a distortion meter incorporating a 1000 Hz, band elimination filter. These conditions being achieved, the receiver volume control is adjusted for 10 percent rated power output, after which the attenuation of the input signal is adjusted until the SINAD is 12 db. The radiofrequency input signal to the receiver is then increased 6 db, and the frequency deviation is increased until the SINAD is again 12 db. The frequency deviation which exists under this final condition is the modulation acceptance bandwidth.

(7) Spurious response attenuation is the ability of a radio receiver to distinguish between a specified, desired signal and an undesired signal at any other frequency to which it is also responsive. The following test procedure is used: An unmodulated standard input signal source is connected to the receiver input terminals. The receiver output terminals are connected to a matched, resistive load and an output indicator. The receiver volume control is adjusted until 25 percent of rated audio frequency power output is achieved (noise). Then, the attenuator of the signal generator is adjusted for the minimum amount of signal to produce 20 db of noise quieting (audio noise output power reduction). The signal generator frequency is then varied over the continuous frequency range from the lowest radio frequency amplified in the receiver to 1000 MHz and all responses are noted. (Harmonics of the signal generator and frequencies between the adjacent channels are excluded.) The ratio of the signal generator voltage required to produce 20 db of noise quieting at any spurious response frequency to the signal generator voltage required to produce 20 db of noise quieting at the receiver resonant frequency, expressed in db, is the receiver's attenuation of the spurious response. The spurious response requiring the least signal input to produce 20 db of noise quieting is used in specifying the receiver's spurious response attenuation.

(8) Intermodulation spurious response attenuation is a measure of the ability of a radio receiver to receive a desired signal in the presence of two interfering signals so separated in frequency from the desired signal and from each other that *n*th order mixing of the interfering signals can occur in nonlinear elements of the receiver, producing a third signal having a frequency equal to that of the desired signal. The following test procedure is used: With the output of the receiver terminated in a matched, resistive load with an output indica-

tor, three signal generators are equally coupled to the receiver input terminals through a suitable matching network. Signal generator No. 1 is modulated at 1000 Hz at ±3.33 kHz frequency deviation; signal generator No. 2 is unmodulated; and signal generator No. 3 is modulated at 400 Hz at ±3.33 kHz frequency deviation. With signal generators No. 2 and No. 3 turned off, the frequency of signal generator No. 1 is set to the center frequency of the radio channel on which the receiver is intended to operate, and the output adjusted for a value of input microvolts to the receiver equal to the measured usable sensitivity of the receiver. Signal generator No. 2 is now set to the adjacent channel above the desired frequency and signal generator No. 3 is set to the alternate channel above the desired frequency. Signal generators No. 2 and 3 should be on the same side of the desired frequency. The equivalent outputs of signal generators No. 2 and No. 3 are maintained at equal levels and these levels are increased until the SINAD is 6 db. The frequency of signal generator No. 3 is adjusted slightly to produce the maximum interfering signal before the final measurement is made. The ratio of the signal from signal generators No. 2 and No. 3 to the signal from signal generator No. 1, expressed in db, is the measure of intermodulation spurious response attenuation. The test is repeated twice, first with the output of signal generator No. 1 adjusted for "input microvolts" to the receiver 26 db above usable sensitivity and again with the output of signal generator No. 1 adjusted for "input microvolts" 46 db above usable sensitivity, respectively.

(9) Audio frequency response of a radio receiver denotes the degree of closeness to which the audio output follows a 6 db per octave deemphasis curve with constant frequency deviation over a given continuous frequency range. Test procedure is as follows: A standard input signal source providing input microvolts of 1000, modulated at 1000 Hz with ±3.33 kHz frequency deviation is connected to the receiver input terminals. The receiver output is terminated in a matched, resistive load and an output indicator. The receiver volume control is adjusted for 50 percent of rated power audio frequency power output. The frequency deviation is then reduced to ±1 kHz and held constant at this value; the modulating frequency is varied from 300 to 3000 Hz and the audio output is noted.

§ 83.717 Bridge-to-bridge source of energy.

(a) There shall be readily available for use under normal load conditions, at all times when required by the Vessel Bridge-to-Bridge Radiotelephone Act, including times of inspection of the ship's bridge-to-bridge station by a Commission representative, a source of energy sufficient to simultaneously energize the bridge-to-bridge transmitter at its required antenna power, and the bridge-to-bridge receiver. Under this load condition the potential of the source of energy at the power input terminals of the bridge-to-bridge radiotelephone installation shall not deviate from its rated potential by more than 10 percent on vessels completed on or after March 1, 1957, nor by more than 15 percent on vessels completed before that date.

(b) When the source of energy for a nonportable bridge-to-bridge radiotelephone installation consists of or includes batteries, they shall be installed as high above the bilge as practicable, secured against shifting with motion of the vessel, and accessible with not less than 10 inches head room.

(c) Means shall be provided for adequately charging any rechargeable batteries used in the vessel's bridge-to-bridge radiotelephone installation. There shall be provided a device which, during charging of the batteries, will give a continuous indication of the charging current.

§ 83.719 Bridge-to-bridge antenna system.

(a) An antenna shall be provided for nonportable bridge-to-bridge radiotelephone installations, in accordance with the applicable requirements of § 83.107, which is as nondirectional and as efficient as is practicable for the reception of radio ground waves. The construction and installation of this antenna shall be such as to insure, insofar as is practicable, proper operation in time of an emergency.

(b) In cases where portable bridge-to-bridge equipment is permanently associated with a vessel, the equipment shall be provided with a connector for an external antenna of a type capable of meeting pertinent requirements of paragraph (a) of this section and § 83.107. The vessel shall be equipped with an external antenna meeting requirements of paragraph (a) of this section and § 83.107, capable of use with the portable equipment during a normal listening watch.

§ 83.721 Antenna radio frequency indicator.

Effective January 1, 1974, each nonportable bridge-to-bridge transmitter shall be equipped, at each point of control, with a carrier operated device which will provide continuous visual indication when the transmitter is supplying power to the antenna transmission line or, in lieu thereof, a pilot lamp or meter which will provide continuous visual indication when the transmitter control circuits have been placed in a condition to activate the transmitter.

AMENDMENTS TO REGULATIONS

Certain changes to Titles 33 and 46, Code of Federal Regulations, appeared in various Federal Registers during the month of July. Due to space limitations, the text of these changes will not be reprinted here until the October issue. A list of the Merchant Marine Publications affected by the changes and the dates of the Federal Registers appears on page 191 of this issue.

COAST GUARD RULEMAKING

(Effective August 1, 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			7–7–72	9–1–72
Life preserver rescue lights (68–71)	3–1–72	3–27–72	4–3–72		7–7–72		
Two avenues of escape—tank, cargo, and oceanographic vessels (45–71)	3–1–72	3–27–72	4–3–72		7–11–72		
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			7–7–72	8–7–72
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							
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	X	.....	.....	.....
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	.....	.....	.....
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	.....	.....	.....
Fort Caswell Bridge, N.C	6–21–72	.....	7–25–72	X	.....	.....	.....
Marc 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	6–21–72	.....	7–25–72	X	.....	.....	.....
HAZARDOUS MATERIALS							
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	....	.....	7–8–72	1–1–73
Oil pollution prevention (CGFR 71–160, 161)	12–24–71	2–15–72	4–21–72	X	.....	.....	.....
Oil pollution prohibited zones (CGD 72–128)	.....	.....	.....	....	.....	7–19–72	7–24–72
MERCHANT MARINE SAFETY (GENERAL)							
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	....	.....	7–21–72	7–30–72
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	.....	.....	.....
Miscellaneous amendments, subchapters D, F, H, I, K, and T (CGD 72–104)	.....	.....	.....	....	.....	7–18–72	7–12–72
Oceanographic vessels, fire main systems (CGFR 72–20)	2–4–72	.....	3–19–72	X	.....	.....	.....
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	.....	.....	.....

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

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.

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, 7–21–72.
115	Marine Engineering Regulations (7–1–70) FR. 12–30–70, 3–25–72, 7–18–72.
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, 7–18–72.
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, 7–21–72.
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, 7–7–71, 7–21–72.
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, 6–14–72, 6–21–72, 7–4–72.
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, 7–18–72.
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, 7–18–72.
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, 7–18–72.
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, 7–18–72.
329	Fire Fighting Manual for Tank Vessels (7–1–68).

CHANGES PUBLISHED DURING JULY 1972

The following have been modified by Federal Registers:

CG–108, Federal Register of July 21, 1972
CG–115, CG–123, CG–200, CG–256, CG–257, CG–323, Federal Register of July 18, 1972
CG–169, Federal Register of July 21, 1972
CG–184, Federal Registers of July 7 and 21, 1972
CG–190, Federal Register of July 4, 1972
CG–320, Federal Register of July 8, 1972