VESSEL BRIDGE-TO-BRIDGE RADIOTELEPHONE ACT

HEARING

BEFORE THE

MERCHANT MARINE SUBCOMMITTEE

OF THE

COMMITTEE ON COMMERCE

UNITED STATES SENATE

NINETY-SECOND CONGRESS

FIRST SESSION

ON

S. 699

TO REQUIRE A RADIOTELEPHONE ON CERTAIN VESSELS WHILE NAVIGATING UPON SPECIFIED WATERS OF THE UNITED STATES

MARCH 12, 1971

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VESSEL BRIDGE-TO-BRIDGE RADIOTELEPHONE ACT

FRIDAY, MARCH 12, 1971

U.S. SENATE,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON MERCHANT MARINE,
Washington, D.C.

The subcommittee met at 2:40 p.m. in room 5110, New Senate Office Building, Hon. Russell B. Long (chairman of the subcommittee) presiding.

Present: Senators Long and Hatfield.

Senator HATFIELD. (presiding) This afternoon we take up Senate bill 699, a bill to require a radiotelephone on certain vessels while navigating upon specified waters of the United States.

The purpose of this bill is to provide a means whereby approaching vessels can communicate with each other, thus reducing the risk of collision.

(The bill and agency comments follow:)

92D CONGRESS
1ST SESSION

S. 699

IN THE SENATE OF THE UNITED STATES

FEBRUARY 10 (legislative day, JANUARY 26), 1971

Mr. COTTON (for himself and Mr. MAGNUSON) (by request) introduced the following bill; which was read twice and referred to the Committee on Commerce

A BILL

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 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 6 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 at the waterline 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 consul-

tation 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 or cause to be maintained 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 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 $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 $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 March 1, 1971, or six months after the promulgation of regulations which would implement its provisions, whichever is later.

OFFICE OF THE DEPUTY ATTORNEY GENERAL,
Washington, D.C., March 8, 1970.

Hon. WARREN G. MAGNUSON,
Chairman, Committee on Commerce,
U.S. Senate, Washington, D.C.

DEAR SENATOR: This is in response to your request for the views of the Department of Justice on S. 699, a bill "To require a radiotelephone on certain vessels while navigating upon specified waters of the United States."

The bill has been examine. Whether this legislation should be enacted involves questions as to which the Department of Justice defers to the Department of Transportation.

The Office of Management and Budget has advised that there is no objection to the submission of this report from the standpoint of the Administration's Program.

Sincerely,

RICHARD G. KLEINDIENST,
Deputy Attorney General.

DEPARTMENT OF THE NAVY,
OFFICE OF LEGISLATIVE AFFAIRS,
Washington, D.C., April 12, 1971.

Hon. WARREN G. MAGNUSON,
Chairman, Committee on Commerce,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: Your request for comment on S. 699, a bill "To require a radiotelephone on certain vessels while navigating upon specified waters of the United States," has been assigned to this Department by the Secretary of Defense for the preparation of a report expressing the views of the Department of Defense.

The bill would require radiotelephones on all foreign and domestic vessels of 300 gross tons and upward, passenger vessels of 100 gross tons and upward, and towing vessels of 26 feet or over in length, when navigating in specified areas,

and also dredges and other floating plants when their operations restrict marine traffic in those areas. The bill requires such vessels to have radiotelephones, operating within the 156–162 MHz VHF–FM frequency band, for the exchange of navigational information. The areas of application of the bill would be the navigable waters of the United States inside of lines which demarcate the inland waters of the United States, and these areas would include the harbors and bays along the Atlantic, Gulf and Pacific Coasts and those of Alaska, Hawaii, Puerto Rico and the Virgin Islands, the Great Lakes and the Mississippi and other river systems.

Implementation of the provisions of the bill will be an important step in navigational safety and should result in a significant reduction in the hazards of marine navigation. Accordingly, the Department of the Navy, on behalf of the Department of Defense, supports the intent and purpose of S. 699. However, certain other factors are involved and the Department of the Navy, on behalf of the Department of Defense, offers its views on them for the consideration of the Committee.

The pre-production models of the equipment contracted for by the Department of the Navy to satisfy the requirements of similar legislation has failed to satisfy all technical criteria for installation in Navy combatant vessels. At this time, it is not anticipated that production models will be available before October 1971. Under the normal ship overhaul cycle, we estimate that initial installations will begin in January 1972 and that all active and Naval Reserve ships will have the required capability by July 1975.

With regard to United States Navy submarines, it may be noted that these vessels will use a portable hand-held radiotelephone instead of one that is permanently installed. Satisfaction of the bill's requirement in submarines is estimated to be achieved not later than July 1973.

The provisions of the bill, if enacted, would become effective on March 1, 1971, or six months after promulgation of regulations which would implement its provisions, whichever is later. In view of the comments in the preceding two paragraphs, it is recommended that the effective date for United States Navy vessels be extended to July 1, 1975. Those United States Navy ships with the capability will, of course, comply with the provisions of the bill.

This report has been coordinated within the Department of Defense in accordance with procedures prescribed by the Secretary of Defense.

The Office of Management and Budget advises that from the standpoint of the Administration's program, there is no objection to the presentation of this report on S. 699 for the consideration of the Committee and enactment of the bill would be in accord with the program of the President.

For the Secretary of the Navy.

Sincerely yours,

LANDO W. ZECH, Jr.,
Captain, U.S. Navy, Deputy Chief.

EXECUTIVE OFFICE OF THE PRESIDENT,
OFFICE OF TELECOMMUNICATIONS POLICY,
Washington, D.C., April 8, 1971.

Hon. WARREN G. MAGNUSON,
Chairman, Committee on Commerce,
U.S. Senate, Washington, D.C.

DEAR SENATOR MAGNUSON: This is in response to your request of February 26, 1971, for the views of the Office of Telecommunications Policy on S. 699, the Administration's proposed vessel-to-vessel radiotelephone bill. If enacted, this bill would require that with certain minor exceptions all commercial and government vessels carry equipment for direct bridge-to-bridge radiotelephone communication, and that a constant watch be maintained on the designated frequency while navigating upon waters of the United States.

The proposed legislation is a direct result of almost seven years of study and consideration by the Coast Guard, the Safety and Special Services Bureau of the Federal Communications Commission (FCC), and, more recently, this Office. Closely similar legislation, H.R. 6971, was introduced to the 91st Congress and passed the House with amendments on December 16, 1969.

The need for such legislation is clear. As the number of vessels operating in our harbors and in our inland and coastal waterways has increased, the danger of maritime accidents has become more serious. These accidents typically entail heavy losses to property, and frequently the loss of life. Moreover, as the President

mentioned in his Offshore Oil Pollution Message of May 20, 1970, and repeated in his Message on Environmental Quality of February 8, 1971, the demonstrated effect of many maritime disasters on the environment is staggering. Most vessels today carry radio equipment, but there is not always a compatible and open direct channel of communication between approaching ships; hence, even the most basic navigational information can often not be transmitted.

Although many vessels are already adequately equipped to meet the requirements of S. 699, achieving universal compliance will doubtless entail financial expenditures that are more than negligible. Prevention of even a single major maritime accident, however, would in our view be worth this social cost, perhaps even on a purely economic basis. For example, we have been informed by the Coast Guard that the recent collision of the oil tankers *Arizona Standard* and *Oregon Standard* in San Francisco harbor resulted in material damage, to these ships alone, in excess of $2 million—without taking into account the cost of the lost cargo or the incalculable, and in large part irretrievable, damage to beaches and wildlife.

This Office strongly recommends prompt enactment of this safety legislation. The Office of Management and Budget advises that there is no objection to the submission of this report, and that enactment of the subject bill would be in accord with the program of the President.

Sincerely yours,

ANTONIN SCALIA, *General Counsel.*

Senator HATFIELD. In a meaningful sense, today's hearing is a continuation of hearings that were held by this subcommittee late in the last Congress. At that time we learned that over the last 5 years 105 deaths and over $22 million in property damage has resulted from collisions between vessels to which this legislation would apply.

We also learned there has been substantial voluntary use of systems similar to the one proposed here, and that they have been instrumental in reducing collisions substantially.

Because of the record we already have on this matter, we have asked the witnesses today to be brief in their oral testimony by summarizing their full statements for the record and their statements will be placed verbatim in the record in written form.

Our first witness is Rear Adm. William F. Rea III, Chief of the Office of Merchant Marine Safety, U.S. Coast Guard.

Admiral, we are very delighted to have you here today, and we will permit you to proceed as you will, to summarize your statement, and we will have your written statement placed on the record, as I indicated before, verbatim.

STATEMENT OF REAR ADM. WILLIAM F. REA, CHIEF, OFFICE OF MERCHANT MARINE SAFETY, U.S. COAST GUARD, DEPARTMENT OF TRANSPORTATION, WASHINGTON, D.C.; ACCOMPANIED BY COMDR. CLIFFORD F. DE WOLF, OFFICE OF CHIEF COUNSEL; AND COMDR. JOHN M. DUKE, MERCHANT VESSEL INSPECTION DIVISION

Admiral REA. All right, sir.

I am Rear Admiral Rea III, Chief, Office of Merchant Marine Safety, and on my left is Comdr. Clifford De Wolf, Office of Chief Counsel; and on my right is Comdr. John Duke, of the Office of Merchant Marine Safety, Merchant Vessel Inspection Division.

I will, sir, just highlight my statement, very briefly.

I do welcome the opportunity to be here this afternoon in strong support of S. 699. This is a most important piece of safety legislation

that was proposed by the Coast Guard, Department of Transportation, and the administration.

The President supported a similar bill to this last year. Again he has indicated his support since this Congress has started. I note these references of specific support to emphasize a strong and universal conclusion within the executive branch that the enactment of this bill can significantly contribute in two areas of vital national concern: safety and water pollution

This bill will amend the navigation laws of the United States by requiring the vessels described in the bill and in my statement to be able to transmit and receive navigational information on the maritime mobile VHF-FM frequency, or frequencies designated by the Federal Communications Commission.

The bill would require vessels to have a transmitting and listening capability on the safety of navigation frequency, but would not require permanently installed radiotelephone equipment. This then permits the owner of a vessel to use portable equipment if he were to so desire. To provide greater assurance that vital navigational information is not overlooked, the bill requires a continuous listening watch whether a vessel is equipped with installed or portable radiotelephone equipment.

My statement then has some historical background of our effort since 1964, which leads up to the present legislation. I will not go into that.

It also includes a brief summary of three collisions in which the boards of investigation that considered these recommended mandatory bridge-to-bridge radiotelephone navigation communication as a method of preventing such collisions.

The Coast Guard considers this bill, S. 699, a very essential step in the prevention of collisions, and we would urge its passage.

Senator HATFIELD. Thank you very much, Admiral.

Admiral Rea, some of the operators, both through their testimony and other communications, have objected to the requirement for the continuous listening watch contained in section 5 of the bill. Will you give us your views on this point?

Admiral REA. Yes, Senator. I feel this is the only change from the bill that was considered by this committee last December. The provision now requires the continuous watch. From the standpoint of safety—and this is safety legislation—it is a stronger bill in that respect.

In the very recent collision in San Franciso Harbor, preliminary indications are that had both vessels stayed on the same frequency and remained there and, in effect, done what we are asking to do here, this collision may not have occurred.

It is just a much better bill, and this is the way we much prefer to see it: with the continuous watch.

Senator HATFIELD. There have also been suggestions that the bill be amended to apply only to vessels over 45 feet in length. Would you care to comment on that?

Admiral REA. Yes, sir. The present bill requires that towing vessels of 26 feet and over, in that area—26 feet is the dividing line—be subject to the requirement. And this suggestion is that, in lieu of 26 feet, that we go to all vessels 45 feet and over.

We would object to that and would recommend that the present provision in the bill not be changed—for two reasons.

One is: By going to 45 feet, some 1,500 towing vessels—of about 5,400—will be excluded from the provisions of this bill. These tugs are handling barges which carry hazardous cargo, and it is more than just the tug itself we are talking about.

Second, if we go to 45 feet and include all vessels, we then bring in, oh, a great number of fishing vessels, and maybe some 12,000 pleasure boats, which we do not think is needed. This would just result in cluttering the frequencies. Therefore, it is not desirable, again from a safety standpoint.

Senator HATFIELD. Admiral, what was the rationale of 26 feet? How did you arrive at 26 feet rather than 27 feet or 30 feet or 45 feet?

Admiral REA. In all these cases, whenever you come up with a dividing line, there is a certain amout of arbitrariness. The 26-foot length was settled on since it included basically all the towing vessels which would be involved in a significant sort of operation where we would want to see this bridge-to-bridge capability of talking with the other vessels handling barges. There is nothing holy about the 26 feet, but it is a dividing line which encompasses pretty much all of the commercial types, large enough to really need this capability of being able to talk to another vessel.

Senator HATFIELD. Are you familiar with log rafts and log towing, say, on the Columbia River or on the Willamette River, or in other areas in the Pacific Northwest?

Admiral REA. I stayed around the Seattle area as commanding officer of a Coast Guard vessel, and I am familiar enough to know that one had to take a great deal of care not to damage the propellers when we were going to sea.

Senator HATFIELD. In the towboat industry that is represented, say, in our waterways industry in the Pacific Northwest, how would this 26-foot length apply? What would be the normal length of a vessel, that would be towing these logs? Forty-five feet? Twenty-six feet?

Admiral REA. Oh, I think I would have to guess there. And we can furnish for the record a little later this information.[1] But I would say 26 feet would probably include most of those, where they are towing the logs any length of tow.

Senator HATFIELD. Would not 45 feet also include most of them?

Admiral REA. I would, again, have to doublecheck and let you know. I would imagine some of these would be excluded. This would be my guess again.

Of the total number we have when we start at 26 feet, roughly 5,400 towing vessels are included. When you jump up to 45 feet, it eliminates about 1,500. I do not know the geographical distribution.

Senator HATFIELD. What are we talking about in terms of economics? What would you say as to the initial cost to the vessel operators to install the equipment to meet the requirements as set forth in S. 699?

Admiral REA. In some cases they probably may have the equipment already on board. Those that do not have the equipment or would have to get crystals or receivers—we are probably talking about from

[1] Information not available in available records.

$300 or $400 on up, depending on how sophisticated equipment they want to install; it would be considerably higher, depending on the sophistication of the equipment.

Senator HATFIELD. As far as the requirements in the bill, are you saying to me that they could meet those requirements for a minimum of $300 to $400?

Admiral REA. If they would use portables.

As far as towing vessels, in that area most of them would use installed equipment.

It would be a matter of getting the crystals and/or receivers. If they already have VHF sets, it might be just a matter of getting the other crystals.

I have some technical people with me that might be more responsive; or we could furnish it for the record also.

Senator HATFIELD. In your statement here you have mentioned the intergovernmental maritime consultative organization. Do you believe that at some time in the future these radiotelephone systems would be a requirement by international treaty or such agreement?

Admiral REA. Yes; I do, sir. I have no timetable on it, but they are being considered there now, and I think at some point in time it will occur.

Senator HATFIELD. In other words, you are saying that what we are requiring here is only a prelude to what will be required eventually by some international action?

Admiral REA. I think this is quite likely. But I hope that this would not be taken by anyone to suggest that we wait until the international body moves, because we think it is needed right now, sir.

Senator HATFIELD. I have a couple of questions here that have been set forth that I would like to quote.

One of the witnesses who was scheduled to appear, representing the American Waterways Operators, has suggested adding a subsection (d) to section 9 of the bill. This is the suggested language, and I would like to get your reaction to it. Subsection (d) to section 9 would read, according to the recommended language:

> The navigation of vessels subject to this Act shall continue to be governed by the regulations for preventing collisions stated in Chapter 3 of Title 33, United States Code. Nothing herein contained shall affect the civil liability of a vessel or owners or master or person in charge of the vessel for the consequences of a collision.

Now that is the proposed language. Could it, for example, impinge upon the doctrine of seaworthiness in admiralty law? That might be one such comment you would like to make, or any other comment.

Admiral REA. Mr. Chairman, if I may, I would like to ask Commander De Wolf of the Chief Counsel's Office to comment.

I know this has been considered in the development of this.

Senator HATFIELD. All right.

Commander DE WOLF. If I recall correctly, that issue has been raised before, and the Coast Guard position has essentially been that we do not foresee that there is anything contained in this bill to suggest any variance from the usual rules or the usual law concerning civil liability.

For that reason, we feel that that language is largely superfluous to the content of this bill.

Senator HATFIELD. In other words, in giving us the benefit of your legal counsel, then you would say that this language would be unnecessary because there is no other suggestion or allusion to this type of thing that requires such exclusion language?

Commander DE WOLF. That is correct, sir.

Senator HATFIELD. Admiral Rea, are you acquainted with the Lake Carriers Association's position on Senate Bill 699?

Admiral REA. I have read Admiral Trimble's statement he submitted to the committee.

Senator HATFIELD. As you know, it does not support the concept of a single dedicated frequency, as I understand it, but do you have any suggestions as to how this problem can be met, to recognize the apparent inequity of the association's position?

Admiral REA. Admiral Trimble's statement suggests, in section 2, I think, just deleting several lines there, and that would broaden the bill from the Lake Carriers' viewpoint and provide the frequency flexibility.

I am not prepared, Mr. Chairman, to agree or even indicate that we could agree to that change. But I would like to go back to the organizations, particularly the Federal Communications Commission, because they are involved with this, too, and take into account the statement and furnish a more definitive response to this to the committee.

Senator HATFIELD. Now in reference to the Federal Communications Commission, as you know, their testimony will be presented that it is clear that S. 699 now requires a listening watch at all times on the designated frequency.

Now by what shipboard personnel must this watch be maintained, as you would see it?

Admiral REA. The way the bill is drafted, it puts this burden on the master, or the person in charge, or whoever he would designate.

Senator HATFIELD. In other words, he can delegate this responsibility?

Admiral REA. If he so desires. We would anticipate he would normally delegate this to the mate on watch.

If he is not up there continuously, then it would be delegated to the mate on watch. He could, if he so desired, delegate this to the pilot.

Senator HATFIELD. Is it your interpretation that the watch need be maintained only while the vessel is underway?

Admiral REA. It is required at all times when the vessel is being navigated. I am not sure whether it is a play on words we are talking about. But anytime a vessel is being navigated, the watch is required to be maintained on the frequency that the regulations set forth.

I think we are saying the same thing. I do not know if there is a play on words——

Senator HATFIELD. Perhaps I am using an old Navy term. I am a product of the Navy, so when we say "underway," it means she is not tied up at any dock and she is not floating free. She is under control. She is actually underway; the screw is turning, or we are drifting or something; but under control.

Admiral REA. The watch is to be maintained at all times under such circumstances, sir.

Senator HATFIELD. Do you think—as I believe we have already had a witness declare—that there might be an ambiguity so that the watch may be required to be maintained while the vessel, say, is at anchor? In other words, is this clear in your mind? Is the language of this bill so specific and understandable? Is it only when the vessel is underway?

Admiral REA. The word we have used in the bill is "navigating," and this would not be considered when the vessel is at anchor.

There is an exception to that. When you are dealing with dredges or other things like that which are obstructing the channel, then those vessels in that particular configuration would have to have the capability of conversing with the traffic as it came by.

Senator HATFIELD. In other words, perhaps for the record we ought to have a little legal brief on the definition of "underway."

Commander DE WOLF. Senator, I think there are several things here to be considered.

Senator HATFIELD. Excuse me just a moment.

You know it has been suggested to have an amendment here to get this clearly identified as "underway" versus at anchor, or under other conditions? Are you aware of that?

Commander DE WOLF. Yes, sir.

Admiral REA. Senator, I believe, if you wish, we could give you a brief on this and try to clarify this. I am not sure of the particular statement now that—I am not sure of the witness that is going to raise this question.

Senator HATFIELD. Did you wish to make a comment?

Commander DE WOLF. I just wanted to indicate that there were several things involved here.

First, it is our feeling that the word "underway" is too narrow a term to use because, as you correctly recognize, when a line is on the botton or a line is on the dock, the vessel is not, strictly speaking, underway. There may be circumstances—for example, with a vessel backing from a slip—where a line is still on the dock, but in view of our attitude that the radiotelephone here is to supplement whistle signals, we can foresee that in a situation like this, the vessel backing from the dock, even with the line still out—we want it to communicate with surrounding vessels that it is backing out into the channel; and we want to be sure that the bill is written in such a way as to include that kind of a situation.

So what I am suggesting is that the word "navigating" is perhaps a broader term than the word "underway."

But with regard to your suggestion that perhaps some ambiguity is created as to vessels anchored, I do not have any real problem with that, simply because we have reiterated repeatedly that what we anticipate is the use of this radiotelephone as supplemental to the use of whistle signals on the vessel.

Obviously the vessel anchored would not be required to give passing and meeting signals and so forth.

Senator HATFIELD. Is there in a navigation journal or navigation dictionary somewhere a clear definition of this? When we talk about "navigating" or "underway," is there some way we can get some biblical definition of this?

Commander DE WOLF. I do not really know, Senator. I think perhaps that is unlikely.

Senator HATFIELD. I see.

I am awfully sorry to have to interrupt this hearing, but we have been called to another vote. So consequently, if you will stand by, I will return, and perhaps some of my colleagues will be able to join me by that time, and we will continue.

I have one more question I want to ask. Please excuse me. We will be in recess for 10 minutes.

[Recess]

Senator HATFIELD. Admiral, we are sort of under the gun. We may be having another vote shortly, so I am not going to ask you to try to give me this information at this time but, rather, for the record. Will you provide the committee with some statistical data—which I am sure you will be able to obtain; and if possible, put it in table form so it will be easily read and understood—for the years, say, 1965–69; in other words, a 5-year period. Maybe it should be 10 years, preferably. Let's say 5 and/or 10, and for vessels 26 feet to 45 feet, in that range. How many collisions have occurred, how many collisions within that classification of vessels?

Number two, how many lives were lost in such collisions?

Third, how much property damage in dollars was involved in such collisions?

(The information requested follows:)

COLLISIONS TOWING VESSELS UPON INLAND WATERS OF UNITED STATES

Fiscal year	Number of collisions involving all towing vessels	Number of collisions involving towing vessels 26 to 45 feet	Death	Property damage 26 to 45 feet only
1969	161	16	0	$143,000
1968	141	11	0	65,000
1967	121	13	0	208,000
1966	113	9	0	156,000
1965	104	4	0	54,000
5 year total	640	53	0	626,000

Note: (1) Tabulations based upon length to nearest foot. (2) Property damaged is estimated value.

Senator HATFIELD. Admiral, I was referring a while ago to a question relating to the navigation industry, particularly in the Pacific Northwest. As you know, there is a difference between barging and log-raft towing.

Barging, for example, goes faster—7 or 8 miles an hour—whereas log towing may be only a mile an hour.

Now for the record—and if you prefer to do this later, this is fine, too—but for the record, would you provide the committee with the number of vessels under 45 feet——

Admiral REA. Under 45 feet?

Senator HATFIELD. Under 45 feet—used for barging—and I do not mean merely shifting a barge or a dredge, but the vessels whose prime use is barging. Barging, I think, is where there is more concern. Could you give us that statistic?

Admiral REA. We will do our best to compile that, yes, Senator.

(The information requested follows:)

There are 1,775 vessels less than 45 feet in length documented for towing service.

Senator HATFIELD. Does the staff have any further questions?

Mr. ROUVELAS. No, sir.

Senator HATFIELD. Thank you very much, Admiral. We appreciate your presence here today and your testimony. And if there is any additional information we need later, we will call on you.

Admiral REA. Thank you, sir.

Senator HATFIELD. Thank you, gentlemen, for accompanying the admiral.

Admiral REA. Thank you, Senator.

(The statement follows:)

STATEMENT OF REAR ADM. WILLIAM F. REA III, CHIEF, OFFICE OF MERCHANT MARINE SAFETY, U.S. COAST GUARD

I welcome the opportunity to be here this morning in strong support of S. 699, an important piece of safety legislation proposed by the Coast Guard, the Department of Transportation, and the Administration. The President, also recognizing the favorable ecological import of a closely similar bill during the last Congress, urged its enactment in his oil pollution message to the Congress in May of last year. The support was expressly reiterated in the early days of this 92nd Congress when the bill was resubmitted, and again in the President's 1971 Environmental Program message of February 8th. I note these references of specific support to emphasize the strong and universal conclusion within the Executive Branch that the enactment of this bill can significantly contribute in two areas of vital national concern—safety, and water pollution.

This bill would amend the navigation laws of the United States by requiring all power-driven vessels of 300 or more gross tons, all passenger vessels of 100 or more gross tons, every towing vessel of twenty-six feet or over in length while navigating, and all dredges or similar vessels which are obstructing navigable waters, to be able to transmit and receive navigational information on the maritime mobile VHF–FM frequency or frequencies designated by the Federal Communications Commission in consultation with appropriate Government agencies. The bill would require this radio telephone equipment be for the exclusive use of the master or person in charge of the vessel or the person designated by him to pilot or direct the movement of the vessel, and that a listening watch be maintained while underway. Reasonable action on the part of the master of a vessel is all that would be required in the event radiotelephone equipment aboard his vessel became inoperative while underway. It would empower the Secretary, with the concurrence of the Federal Communications Commission, to prescribe regulations for its enforcement and would permit the assessment of penalties against persons or vessels in violation.

In 1964, a joint Coast Guard-Federal Communications Commission Committee was appointed to determine the desirability of legislation to require radiotelephones on the bridges of vessels for navigational safety and, if so, to submit a preliminary draft. Discussions were held with interested groups including the shipping industry, labor, and the American Pilot's Association to develop the statutory action. A preliminary proposal for navigational safety radiotelephone on the bridges of vessels was released to the public in July 1965. S. 699, the bill before you now, has evolved from that original proposal and is, in our view, the proper legislation necessary to enhance the ability of approaching vessels to avoid collision.

VHF radiotelephones have been successfully used in the maneuvering of vessels for over 25 years. This type of radio was installed on United States Navy vessels during World War II as the TBS, or "Talk-between-ships" systems. It was invaluable in assisting zigzagging vessels in convoy and their escorts to avoid collision by permitting deck officers to tell one another what they indended to do. It has been demonstrated to be similarly useful in peacetime in the avoidance of collisions. Although the capability has been available for more than 25 years, and there has been significant voluntary use of the concept, legislation is needed to attain the universal compliance which is necessary for full effectiveness. This bill would assure that all major vessels on United States waters have this communication link for navigational safety purposes.

A recent collision between two tankers on the West Coast resulted in spillage of over three-quarters of a million gallons of oil and extensive property damage.

While hearings, investigations and reports are not yet completed, preliminary indications are that this may well have been a case where mandatory bridge-to-bridge radiotelephone provisions could have aided in prevention of collision.

This should not be considered an isolated case. In the vast majority of collisions, failure of approaching vessels to understand each others intentions has been a contributing factor. In each of the following three cases the board of investigation recommended mandatory bridge-to-bridge radiotelephone navigation communication as a method of preventing such collisions.

A New York harbor collision in June 1966 between two tankers, TEXACO MASSACHUSETTS and MV ALVA CAPE, resulted in significant oil spillage and property damage, plus the loss of 33 lives.

A March 1968 collision in the lower Mississippi River between SS AFRICAN STAR and a barge complex pushed by MV MIDWEST CITIES also resulted in significant spillage and property damage. Twenty-one lives were lost in this tragedy.

Similarly, in April 1969, SS UNION FAITH and a barge pushed by tug WARREN J. DOUCET collided in the lower Mississippi River causing significant spillage and property damage. Twenty-five lives were lost as a result of this collision.

It is probable that the United States action in our own territorial waters will promote the use of radiotelephones between approaching vessels on the high seas; this usage was strongly recommended by the Congressional Committee investigating the ANDREA DORIA-STOCKHOLM collision which occurred in the spring of 1956. Additionally, overtures to this effect have recently been made at Inter-Governmental Maritime Consultative Organization meetings discussing possible revision of International Collision Regulations.

This bill requiring a radiotelephone for exchange of navigational information is considered by the Coast Guard to be a necessary addition to our navigation laws. Such a radiotelephone is viewed as an electronic extension of the ship's whistle. It would be used only by pilots or masters to tell one another whether they are turning, on what side they intend to pass, whether they intend to anchor, that they are getting underway, that they are approaching a certain bend, or similar maneuvering information.

The bill would require vessels to have a transmitting and listening capability on the safety of navigation frequency but would not require permanently installed radiotelephone equipment. The intention is to permit vessels, particularly foreign, to comply with the bill's provisions with the use of portable radiotelephone equipment because installed VHF equipment, though more and more common, is not universally required on vessels engaged in world trade. To provide greater assurance that vital navigational information is not overlooked, the bill requires a continuous listening watch whether a vessel is equipped with installed or portable radiotelephone equipment.

The size and speed of vessels are continually becoming greater, increasing the danger of collisions. Masters and pilots on vessels should be provided with all practical means to help them maneuver their vessels safely past one another. The navigation laws, or Rules of the Road, prescribe what action vessels should take to pass without incident; these rules are good operational guides, but they have certain inherent shortcomings. The Rules of the Road do not—and cannot—comprehensively prescribe for maneuvering of vessels in fog; they do not speak to the problem of three or more vessels converging; they depend on whistle signals and lights that often are unheard or unseen. To resolve doubts often created between approaching vessels, it would be very helpful if pilots could talk to one another directly over radiotelephones carried on the ships' bridges. The Coast Guard considers this bill an essential step in prevention of collisions and we urge its passage.

Three minor amendments, one of an editorial nature, one clarifying the method of measuring a vessel's length, and one permitting more flexibility in penalty assessment, are considered appropriate. Taken in the order in which they occur, they are as follows:

Page 2, line 9, "6" should read "7"—this error resulted from a rewrite of the proposal. The Secretary's power of exemption is contained in Section 7.

Page 2, line 16—"at the waterline" should be deleted or changed to read, "measured from end to end over the deck excluding sheer." The reason for this is that it is very difficult to measure a vessel at the waterline rather than over the deck, a method currently used in other regulations.

Page 5, line 1 and line 4—insert the words "not more than" immediately preceding "$500."

Senator HATFIELD. There will be a 10-minute recess for another vote.

[Recess]

Senator HATFIELD. The hearing will please reconvene.

We have a transportation problem here. Mr. William C. McNeal, chairman of the board of American Waterways Operators, has to catch a plane very shortly and, therefore, we would like to call him as the next witness.

STATEMENT OF WILLIAM C. McNEAL, CHAIRMAN OF THE BOARD, AMERICAN WATERWAYS OPERATORS, WASHINGTON, D.C.

Mr. McNEAL. Thank you, Senator, I appreciate your kindness.

Senator HATFIELD. I am just very apologetic for the interruptions here today, but I have no control over that situation.

Mr. McNEAL. Not at all, sir; not at all.

Senator HATFIELD. You may proceed as you wish. We will have your full testimony printed.

Mr. McNEAL. Mr. Chairman, you have a copy of my statement. I would like to summarize briefly some of the major points; and I would also like to ask permission at one point to introduce a statement that we made before this subcommittee on November 18, 1970, relating to H.R. 6971, and ask that that be made part of the record. I believe you have a copy of that, sir.

Senator HATFIELD. Yes. It has been printed and carries the serial number 91–98.

Mr. McNEAL. Thank you.

My name is William C. McNeal. I am chairman of the board of the American Waterways Operators, Inc. I am also executive vice president of Oil Transport Co., New Orleans, La., since being chairman of the American Waterways Operators is not a paying job.

The American Waterways Operators is on record with this committee in strong support of legislation to require VHF radiotelephones for bridge-to-bridge communication. AWO endorses and urges enactment of such legislation, and we believe that a requirement for the bridge-to-bridge radiotelephone is the single most effective step that can be taken to improve safety in marine operations.

We have testified to this before. At the same time, in testifying on these bills, we have advanced suggestions that bridge-to-bridge communications should apply to all power-driven vessels of 45 feet or over in length. This includes, of course, fishing vessels; it includes a class of vessels perhaps presently seen only in the gulf: offshore supply vessels; and it includes other large pleasure vessels that may probably be involved or could be involved in bridge-to-bridge communications in passing situations because of their size.

There are, of course, some smaller towing vessels under 45 feet, between 45 and 26 feet, which are used in shipyard or fleeting operations, and these would be exempted from the requirement if 45 feet were used.

We recommend your consideration of this, sir.

We also ask that the Coast Guard give consideration and recognition to certain specialized operating conditions. Under section 7 of the bill there is a permission for this. The New York Harbor area is

one such area. Second, of course, is San Francisco, where there is a communications net; and a third area is the Pacific Northwest, where its unique logging operations on remote waters may well be taken into consideration; and there are undoubtedly other specialized conditions in areas that the Coast Guard may recognize.

As we have pointed out, the legal liability imposed we feel is confused with chapter 3 of title 33 of the United States Code, and we suggest a paragraph (d) be added to section 9. This has been covered before.

And of course, as was pointed out by the Coast Guard witness, this may be redundant, but he did not say it was repugnant.

Last year this bill was considered. There is a difference this year, and this is the continuous watch provision, or the provisions for maintaining a listening watch at all times under S. 699. This was not in the bill last year, and we urgently request that this language be reinserted, and that is:

> The master or person in charge may permit the use of the radiotelephone on other authorized frequencies within the maritime mobile band whenever there is no risk of collision.

We do this, we feel, in the greater interest of safety, to avoid the multiplicity of channels on vessels, the multiplicity of speakers in a wheelhouse, and to eliminate the resulting confusion.

Senator, that summarizes my testimony. I thank you very much for the time you have given me. And if there are any questions, I will be happy to try to answer them.

Senator HATFIELD. I do not want to delay you. I want to thank you for your very strong statement here. You have made your position very, very clear.

I would just like to ask you, for the committee, if you could give us the approximate number of how many members of your association would be subject to the requirements of this particular bill?

Mr. MCNEAL. All of the operating members of the association. We have a category of membership that is explained in the opening part that would include shipyards and other waterway services who may not, per se, operate vessels; but all of those who operate vessels would be affected by the provisions of this bill.

Senator HATFIELD. How many of your association members employ radiotelephone equipment at the present time?

Mr. MCNEAL. All members employ it because on the Mississippi River system, since right after World War II, there has been a radiotelephone, although that has not been a VHF radiotelephone. Our latest survey of the membership would indicate that probably some 90 percent of our membership use the VHF radiotelephone, as is envisioned in this bill, Senator.

Senator HATFIELD. How many frequencies do they monitor at the present time?

Mr. MCNEAL. Presently on the VHR radio they will be monitoring channel 16, the calling channel. They may also be monitoring, but not on a continuous basis, channel 13, which is the navigation channel envisioned under this bill.

But if the bill were put into effect, it would be necessary also to monitor channel 13.

In addition, many of the members monitor a third channel, whatever it may be in terms of numbers; that is a house frequency.

This is particularly true in harbor areas such as New York, New Orleans, St. Louis, Cairo, Ill., and other areas where there is a rather wide cross-traffic, or is an interchange for tow boats and barges.

Senator HATFIELD. Would it be possible for you to refine that data a bit as to the numbers and percentages of your members who monitor each of these frequencies?

Mr. MCNEAL. We will do that, sir.

Senator HATFIELD. Thank you very much, Mr. McNeal. I hope ou catch your plane.

Mr. MCNEAL. Thank you, sir. I appreciate it.

(The statement and answers referred to follow:)

STATEMENT ON BEHALF OF THE AMERICAN WATERWAYS OPERATORS, INC.

My name is William C. McNeal. I am Chairman of the Board of The American Waterways Operators, Inc. (AWO), a trade association representing the national interests of operators of towboats, tugboats, and barges who provide transportation services and shipberthing and other harbor work on the navigable waters of the United States, including the inland waterways and coastal, coastwise and oceangoing routes. In addition to such vessel operators, AWO also represents shipyards who build and repair the type of equipment operated by AWO's carrier members, terminal operators who serve water carriers, and certain service companies.

My position with AWO is voluntary as a member of the Association. I am executive vice president of Oil Transport Company, Incorporated of New Orleans, Louisiana, which is a company operating towing vessels and barges over inland waterways.

AWO has its principal offices at 1250 Connecticut Avenue, Washington, D.C., with field offices in New Orleans and New York.

Before having been elected Chairman of the Board of AWO in February 1971, I served as chairman of AWO's Coast Guard Liaison Committee which maintains a constant working relationship with that agency in connection with the responsibilities which affect the towing industry.

The American Waterways Operators, Inc., is on record with this committee in strong support of legislation to require VHF radiotelephone for bridge-to-bridge communications. AWO endorses and urges enactment of such legislation. AWO believes that a requirement for bridge-to-bridge radiotelephone is the single most effective step that can be taken to improve safety of marine operations.

At a hearing held November 18, 1970, by this subcommittee on legislation similar to S. 699, I testified on behalf of AWO generally in support of the legislation. On behalf of the members of AWO we recommend some changes in the bill then under consideration in the belief such changes would improve the effectiveness of bridge-to-bridge radiotelephone communications. In order to avoid duplication of that testimony, I request permission to submit a copy of my statement on H.R. 6971 for inclusion in the record of this hearing and for further consideration of this committee.

Briefly, may we reiterate and re-emphasize certain points with respect to this legislation.

With respect to the applicability to vessels as set forth in Section 4, paragraph (a), subparagraphs (1), (2), and (3), AWO recommends that the requirement for VHF radiotelephone for bridge-to-bridge communications apply to all power-driven vessels of 45 feet or over in length. The Coast Guard's original proposal which was advanced in 1965 would have required bridge-to-bridge VHF radiotelephone capability for "every power-driven vessel of 300 gross tons or over, every towing vessel of 26 feet or over in length, and every power-driven vessel of 65 feet or over in length carrying persons for hire." The Coast Guard's suggestion in testimony to the Subcommittee on Coast Guard, Coast and Geodetic Survey, and Navigation of the House Merchant Marine and Fisheries Committee on July 14, 1969, as we understood it, was that the committee consider that applicability requirement with respect to vessels. By making the requirement applicable to all towing vessels of 26 feet or over in length, every vessel in the United States which performs towing in any fashion, insofar as we know, would be required to have bridge-to-bridge VHF radiotelephone capability. By making this proposed statute applicable to all power-driven vessels of 45 feet or over in length as we propose, the requirement still would apply to over 95 percent of all towing vessels. A few

which are used to shift barges or other equipment in shipyard operations or fleeting operations would be relieved of the requirement.

Such vessels operate in areas isolated from the general movement of other vessels and radiotelephone capability for bridge-to-bridge communications would not contribute to the safety of their operations or to the overall safety of marine operations. On the other hand, by making the proposed statute applicable to all power-driven vessels of 45 feet or over in length, certain vessels other than towing vessels, such as large pleasure craft, commercial fishing boats, and offshore drilling supply boats, which operate on the same waters in many cases with towing vessels and ships would be required to have bridge-to-bridge radiotelephone capability and in the opinion of AWO should be required to do so in the interest of total maritime safety. AWO recommends consideration of this.

AWO recommends and urges that the committee in its report on the proposed legislation request the United States Coast Guard to give consideration and recognition to certain specialized conditions in the promulgation of regulations for the operation and use of VHF radiotelephone for bridge-to-bridge communications. The Secretary of the Department under which the Coast Guard is operating is given authority to do so under Section 7 of the bill. Specialized conditions which we believe should be given consideration in the regulations include the following: (1) the New York Harbor area where the density of vessel traffic is such as to make identification of the vessel speaking on the bridge-to-bridge radiotelephone channel difficult; and where the requirement for maintaining a listening watch on two radiotelephone channels (the one designated for bridge-to-bridge communications and the one designated by the Federal Communications Commission for safety and calling purposes), plus a business requirement for almost constant use of the vessel's channel for communicating with its home office to receive dispatching orders; (2) the San Francisco Harbor area where a highly developed and efficiently operating system of radio communications has already been set up using a different channel from the channel proposed for bridge-to-bridge radiotelephone communications; and (3) the Pacific Northwest area where certain towing vessels are engaged regularly in waters outside those used for main stream traffic, such as logging operations on remote waters where there is no general commerce. There are perhaps other specialized conditions which should be taken into account in writing the regulations, but the foregoing will serve as examples of the kind of problems we think should be considered.

Further, with respect to the legal liability imposed, S. 699 creates confusion and conflict with Chapter 3 of Title 33 of the United States Code. Section 2 is a purpose clause. That clause implies that radiotelephone may be the only positive means whereby operators of approaching vessels can communicate their intentions to one another. Yet, Title 33 of the United States Code contains elaborately detailed navigational rules, including provisions requiring approaching vessels to exchange whistle signals. These provisions of statutory law have given rise to a sizable number of liability cases in which the question of intentions conveyed by whistle signals has been important, and sometimes conclusive. S. 699 certainly does not repeal the whistle signal requirements of Title 33, but to what extent voice communications will supersede whistle signals or what solution will result when voice communications and whistle signals contradict one another are problems left unresolved by this legislation. The letter of January 17, 1969 from the Secretary of Transportation to the Speaker of the House, included in the House Committee report (House Report No. 91–730), describes radiotelephone communications as a "supplement" to required whistle signals of intent "in times of good visibility" and as an "improved means" of communication when wind or heavy traffic conditions prevent whistle signals from being heard or properly sorted out. This legislative history might easily support an argument that Congress showed an intent for radiotelephone communication to receive greater weight than whistle signals as a manifestation of navigational intent.

In this connection, having in mind the probable effects of the proposed statute upon the legal liability imposed which could result in a vessel's being rendered unseaworthy, we offer the following amendment for the committee's consideration to be added as Paragraph (d) of Section 9:

"(d) The navigation of vessels subject to this Act shall continue to be governed by the regulations for preventing collisions stated in Chapter 3 of Title 33, United States Code. Nothing herein contained shall affect the civil liability of a vessel, her owners or master or person in charge of the vessel for the consequences of a collision."

* * * * * * *

The bill under consideration here differs from H.R. 6971, which was considered by this committee last year, in that the language formerly contained in Section 5 permitting the master to go off watch on the designated bridge-to-bridge radiotelephone frequency when there is no risk of collision has been deleted. Removal of this language requires the master to maintain an absolute continuing watch and creates serious problems for vessel operators and in our opinion reduces the legislation's effectiveness in improving safety of marine operations. Deletion of the subject language has the effect of requiring the master to maintain a continuous listening watch on the designated frequency. An absolute requirement to monitor two channels—the designated frequency for bridge-to-bridge communications and the safety and distress frequency where a continuous listening watch is required by Federal Communications Commission regulations—handicaps the master's alertness. This is especially the case when you take into consideration the fact that in order to maintain business operations the master of towing vessels must carry on communications on his house business telephone frequency.

AWO opposes the requirement for a continuous listening watch brought about by the deletion in Section 5 of the language in last year's bill, H.R. 6971 which read: "The master or person in charge may permit the use of the radiotelephone on other authorized frequencies within the maritime mobile band whenever there is no risk of collision." AWO urgently requests that the language be reinserted.

We appreciate your consideration of AWO's views on this legislation.

THE AMERICAN WATERWAYS OPERATORS, INC.,
Washington, D.C., March 22, 1971.

Hon. MARK O. HATFIELD,
Subcommittee on Merchant Marine, Committee on Commerce, U.S. Senate, Washington, D.C.

DEAR SENATOR HATFIELD: At the conclusion of my testimony on behalf of the American Waterways Operators, Inc. on March 12 before your Subcommittee on Merchant Marine on S. 699, a bill "to require a radiotelephone on certain vessels while navigating upon specified waters of the United States," you asked several questions with respect to the application of the legislation to members of the Association and the industry as a whole as well as questions as to the present use of VHF radiotelephone.

Following my brief answers at that time you suggested that we refine the data on the questions and furnish you more complete answers.

You asked how many members of AWO would be subject to the requirements of the bill for radiotelephone for bridge-to-bridge communications.

163 AWO members perform transportation services in the operation of towbats, tugs, and barges. All of these 163 companies would be subject to the requirements of the bill.

37 members of AWO are shipyards engaged in the construction or repair of vessels. All such yards operate towing vessels for shift work and practically all such towing vessels are over 26 feet in length and therefore would be subject to the requirements of the bill.

18 members of AWO are companies who provide mid-stream fuel and supply services and fleeting operations. Such services are provided by tow-boat and barge combinations. Most of the towboats used are over 26 feet in length and therefore would be subject to the requirements of the bill.

4 members of AWO are naval architects or terminals. These firms would not be subject to the requirements of the bill.

The following members of AWO would not be subject to the provisions of the bill: one state natural resources development agency; one investment firm; and four port authorities.

Further to the point of applicability of the bill; 1,700 companies are engaged in providing transportation services in the operation of towing vessels in the United States. They operate a total of 4,248 towboats and tugs. All of these vessels would be subject to the bill.

With respect to your question as to how many members of AWO use radiotelephone equipment at the present time; our most recent survey indicates that at least 90 percent of our members currently use radiotelephone equipment. (We estimate that approximately 80 to 85 percent of the total industry (1,700 companies) uses radiotelephones aboard the vessels).

But it should be pointed out that not all of the radiotelephone equipment currently in use can be used for its present purposes and the additional purpose of bridge-to-bridge communications. Some vessels are equipped with single channel VHF sets; some with dual channel sets; and some with multi-channel sets. One and two channel sets do not have the capacity to perform the present service for which they are used and provide the capability for bridge-to-bridge radiotelephone. Boats equipped with single and dual channel sets will have to be re-equipped with multi-channel sets having a capability of more than two channels; or an additional set will have to be added to the vessel equipment for bridge-to-bridge radiotelephone.

S. 699 will require exclusive use of channel for bridge-to-bridge communications. Therefore a single channel set now in use aboard vessels cannot be continued in use for its present purpose and fulfill the requirement for bridge-to-bridge radiotelephone. Dual channel VHF radiotelephone sets now in use already have one channel dedicated to the safety and distress frequency which under Federal Communications Commission regulations must be guarded at all times; with the other channel used for in-house business and not available for bridge-to-bridge radiotelephone purposes. Multi-channel sets with channels in excess of one or two can, in most cases, be adapted to provide for bridge-to-bridge radiotelephone capability.

With respect to your question as to how many frequencies are monitoroed on VHF radio at present; under FCC regulations all maritime mobile VHF stations are required to monitor the safety and distress frequency, 156.3 Mc/s; and for business reasons all vessels equipped with VHF radiotelephone monitor their assigned in-house frequency. With passage of S. 699, such vessels would then be required to monitor a third channel.

I trust this information is responsive to your questions.

May I again express my appreciation for the courtesy you showed me when I appeared before your subcommittee to testify.

Sincerely yours,

WILLIAM C. MCNEAL,
Chairman of the Board.

Senator HATFIELD. At this time we would like to call on Gov. John H. Reed, Chairman of the National Transportation Safety Board, Department of Transportation, Washington, D.C.

Governor Reed, it is a great pleasure to welcome you to the committee today and renew an old acquaintance.

Governor Reed, as you have heard before, we will reproduce your testimony as you have written it, and if you care to highlight it or summarize it, anyway you wish to proceed is fine.

STATEMENT OF JOHN H. REED, CHAIRMAN OF THE NATIONAL TRANSPORTATION SAFETY BOARD, DEPARTMENT OF TRANSPORTATION, WASHINGTON, D.C.; ACCOMPANIED BY ADM. LOUIS THAYER, MEMBER OF THE BOARD; CAPT. HARRY L. MORGAN, CHIEF, MARINE SAFETY DIVISION; AND COMDR. ALAN D. BREED, U.S. COAST GUARD

Mr. REED. Thank you very much, Mr. Chairman, and I will be glad to highlight the Board's statement.

First I would like to say that on my right is Adm. Louis Thayer, Member of the Board. To my immediate left, Capt. Harry Morgan, Chief of the Marine Safety Division; and his deputy to his left, Comdr. Alan Breed of the U.S. Coast Guard.

I would like to point out that the Board welcomes this opportunity to testify in support of S. 699, the Vessel Bridge-to-Bridge Radiotelephone Act, and we certainly do support this legislation.

I might mention that in the Board's activity, we have processed six cases where vessels involved had voice radio equipment aboard

but were not on the same frequency, and where catastrophic collisions did occur.

The Safety Board recognizes the fact that bridge-to-bridge radiotelephone capability alone will not prevent all collisions. However, proper use of voice radio communications serves as an important adjunct to the whistle signals and navigation lights required by the applicable rules of the road.

We have noted a number of meeting situations in which the whistle signal of one vessel proposing a passing under the rules was not heard by the other vessel; and the person initiating the whistle signal has no definite way of knowing if his signal was heard by the bridge personnel on the other vessels. On diesel vessels, whistle signals are difficult to hear due to the relatively high engine noise. Even when the whistle signals are heard and understood, a time lag is involved in reaching a passing agreement. And the time required to achieve an agreement for a safe passing becomes critical with the increasing size and speed of the new supertankers that are coming into being. We feel that radiotelephone communications should enable pilots to clairfy immediately any doubts concerning the other vessel's intentions.

Some of the other advantages of the radiotelephone are the ability to communicate intentions in fog, to alert other vessels of intended movements when approaching a blind turn in the channel, and certainly identification of vessels encountered in congested areas.

With the increase in varieties and amounts of hazardous materials shipped on our U.S. waters, the need to prevent collisions becomes of urgent importance, and I am sure this committee is well aware of the enormous amounts of petroleum products carried by supertankers. Of course, we recognize the threat of pollution, the ever-present chance of explosions and fires of great proportions; and there are other problems involved.

Most vessels, of course, are equipped with voice radios, so the economic impact of such legislation should be minimal in comparison with the accident prevention potential.

We, therefore, at the National Transportation Safety Board, do respectfully recommend that your committee give favorable consideration to the early enactment of S. 699.

Mr. Chairman, I think this summarizes our prepared statement. We would be happy to attempt to answer any questions at this time.

Senator HATFIELD. Thank you very much, Governor Reed. We appreciate your interest and effort that you have put forth in not only this area of safety but throughout your whole area of responsibility in other modes of transportation as well.

In your statement, Governor Reed, you referred to the San Francisco Bay collision. Let me make sure I understand the statement correctly. In this case both vessels had a radiotelephone, but one was not listening?

Mr. REED. That is right. Although both vessels had identical radio capability, only one of them was monitoring the harbor advisory frequency.

Senator HATFIELD. I see. It was not a question, then, of different frequencies? It was the problem of one not being monitored; and therefore, not being able to be in communication?

Mr. REED. Yes. The safety factor that should have been present was absent because it was not mandatory for the harbor advisory frequency to be guarded.

Senator HATFIELD. Then you would say that probably one of the salient points of this whole bill is in the new requirement of section 5 for a continuous listening watch; is this correct?

Mr. REED. Yes, sir, that is definitely the case. As I mentioned, we had six different cases where collisions occurred where both vessels had the equipment but they were not on the same frequency. And so we feel this is one of the most pertinent portions of the legislation.

Senator HATFIELD. You stated that in the Delaware River and Bay, since the introduction of the voluntary system, that collisions have been reduced by 75 percent?

Mr. REED. Yes.

Senator HATFIELD. How widespread is the use of these systems in other areas, according to your information?

Mr. REED. We find that this equipment is in general use on most waterways. Many of the vessels do have the equipment, but are not on the same frequency.

Senator HATFIELD. And that is the key to it? As far as the voluntary use is concerned, it also has to be technically geared so that you are on the same frequency?

Mr. REED. Yes, sir. We think this is a very important portion of the bill.

Senator HATFIELD. Well, Governor, we will certainly feel free to call upon you further as we develop this record. And if there are other factors that come to mind after you have left and you wish to submit further testimony, we would be very happy to hear from you.

Mr. REED. Thank you very much, Mr. Chairman. It is a pleasure to appear before you, and we appreciate your interest in this important matter.

Senator HATFIELD. We appreciate your work on it.

(The statement follows:)

STATEMENT OF JOHN H. REED, CHAIRMAN OF THE NATIONAL TRANSPORTATION SAFETY BOARD

Mr. Chairman and Members of the Subcommittee, I am John H. Reed, Chairman of the National Transportation Safety Board. Accompanying me are Member Louis M. Thayer, Harry L. Morgan, Chief of our Marine Safety Division, and his Deputy, Cdr. Alan D. Breed, U.S.C.G. We welcome this opportunity to testify in support of S. 699, the Vessel Bridge-to-Bridge Radiotelephone Act. In our letter to you dated November 4, 1970, the Safety Board commented favorably on S. 1240, a similar bill.

The Safety Board has no regulatory authority; however, it is charged with a continuing across the board review, of the general safety picture in all modes of transportation. In the marine safety field, it has a statutory responsibility to determine cause or probable cause of major marine casualties. The Board makes recommendations to the Secretary or Administrators of the Department of Transportation regarding operations and legislation which, in its opinion, will tend to prevent transportation accidents and promote safety. Numerous recommendations pertaining to marine safety have been made in accident reports and special studies. We have recommended the enactment of legislation requiring the capability of radiotelephone communications on certain U.S. vessels in two special studies and in three final reports of Coast Guard Marine Boards of Investigation.

In our study, "Collisions of Radar Equipped Merchant Ships," the need for bridge-to-bridge radiotelephones was cited as an important collision avoidance system. Also, in our special study on "Towing Vessel Safety," we recommended the Corps of Engineers and Coast Guard jointly study the operational control

of vessels in the congested inland waterways, including the need for radio communications capability.

In reviewing Coast Guard reports of investigations, we consider all known causal factors. In five major collision cases, the lack of bridge-to-bridge radiotelephonic capability was an important causal factor. The collision between the British tank vessel, ALVA CAPE and SS TEXACO MASSACHUSETTS, was a case in which two experienced pilots were controlling the operation of these vessels and failed to reach an agreement in a crossing situation. Each vessel had radiotelephone equipment but was not monitoring the same frequency. Had they been able to communicate by bridge radiotelephone, the accident might have been avoided. Instead, thirty-three lives and the ALVA CAPE were lost.

Three collisions which occurred on the Mississippi River could have been prevented by proper use of bridge-to-bridge radotelephones to reach agreement on safe passing procedures. The Coast Guard buoy tender WHITE ALDER was overrun by the Chinese Nationalist cargo vessel HELENA, and the buoy tender was lost along with 17 of her crew of 20. The pilot of the HELENA attempted unsuccessfully to call the Coast Guard vessel on the local pilot frequency Channel 13.

The collision of the SS AFRICAN STAR with the tank barge being pushed by the MIDWEST CITIES, resulted in the loss of 21 lives, 40 persons being injured, and the loss of millions of dollars in property damage. The pilots of these two vessels did not communicate on the same voice frequency and each construed the meeting situation differently.

The Chinese freighter UNION FAITH collided with a tank barge being pushed by the towing vessel W. J. DOUCET. The resultant fire and explosion sank the UNION FAITH, and 25 of her crew perished. Damage was sustained by the Greater New Orleans bridge, and a major fire along the New Orleans waterfront was narrowly avoided by prompt emergency measures and an element of luck. In this case, the pilot of the UNION FAITH apparently did not see the tow in time to avoid the collision. Had both pilots been able to communicate on a common radio frequency, the movements of the tank barge tow would probably have been observed earlier. The sunken wreck of the UNION FAITH was an obstruction to navigation in the busy New Orleans area for more than one year.

The Safety Board attended the recent Marine Board of Investigation of the collision of the SS OREGON STANDARD and SS ARIZONA STANDARD off the Golden Gate Bridge. This highly publicized collision fortunately resulted in no loss of human life, but unfortunately extensive ecological losses and property damage occurred. While the investigative report has not been completed, preliminary information indicates the need for monitoring a common operational frequency, such as would be required by Section 5 of S. 699. Both of these vessels were owned by the same company, and were equipped with similar bridge radiotelephones that covered the same frequencies. Apparently, the channel being monitored by bridge personnel on each of these tank vessels was not the same.

We have noted a number of other Coast Guard reports of investigation in which lack of capability to communicate on a common voice radio frequency, contributed to the collision. The Coast Guard takes final action on reports other than those of Marine Boards of Investigation. However, copies of narrative reports are provided the Safety Board for our review. Two of these reports illustrate the potential for catastrophic accidents involving the transportation of hazardous materials.

The Liberian cargo vessel, CHRISTIANE collided with tank barges being pushed by the towing vessel, BARBARA WAXLER, in the narrow Houston ship channel. Extensive damage to the freighter and two tank barges resulted; the busy channel was closed to traffic for two days; and the potential for a major fire along the shore was very serious. Fortunately, the fire was extinguished. Again, the vessels were unable to communicate on a common radio frequency.

Another collision involved the British freight vessel, HALIFAX STAR, and a tank barge being pushed by the towing vessel JOHN M. WARREN. In the collision, hazardous propylene from the tank barge spewed to a height of 200 feet blasting off paint from the bow of the freighter. The gas enveloped both vessels in a dense cloud that fortunately was not ignited. This could have resulted in a terrific explosion and fire. No common voice radio frequency was available to the pilots for communication.

The Safety Board recognizes the fact that bridge-to-bridge radiotelephone capability alone will not prevent all collisions. However, proper use of voice radio communications serves as an important adjunct to the whistle signals and navigation lights required by the applicable Rules of the Road. We have noted a number of meeting situations in which the whistle signal of one vessel proposing a passing under the Rules, was not heard by the other vessel. The person initiating the

whistle signal has no definite way of knowing if his signal was heard by the bridge personnel on the other vessel. On diesel vessels, whistle signals are difficult to hear, due to the relatively high engine noise level. Even when whistle signals are heard and understood, a time lag is involved in reaching a passing agreement. The time required to achieve agreement for a safe passing becomes critical with the increasing size and speed of new supertankers, ground effect vessels, and hydrofoil vessels. Radiotelephone communications should enable pilots to clarify immediately any doubts concerning the other vessel's intentions. Other advantages of radio telephonic capability are: the ability to communicate intentions in fog; ability to alert other vessels of intended movements when approaching a blind turn in a channel; and the identification of vessels encountered in congested areas.

The effectiveness of bridge-to-bridge radiotelephones in reducing collisions has been noted on the Great Lakes and on the Delaware River. Collisions on the heavily traveled Great Lakes have been very infrequent, largely due to voice communications capability and recommended traffic lanes. Similarly, collisions on the Delaware River and Bay have been reduced by 75 percent since 1960, when a voluntary radiotelephone system was implemented. We feel that requiring radiotelephone capability on a common frequency on all waters of the United States would result in a significant reduction in the number of collisions.

With the increase in varieties and amounts of hazardous materials shipped on U.S. waters, the need to prevent collisions becomes of urgent importance. This Committee is well aware of the enormous amounts of petroleum products carried by supertankers, and the potential for a catastrophic casualty in our inland and coastal waters. The threat of major pollution, and ever-present chance of fires and explosions of gigantic proportions, dictate the adoption of collision avoidance measures. We consider the requirement of bridge-to-bridge radiotelephones an important measure in the prevention of collisions. Most vessels are equipped with voice radios, so the economic impact of such legislation should be minimal in comparison with the accident prevention potential.

We, therefore, respectfully recommend that your Committee give favorable consideration to early enactment of S. 699.

Thank you for inviting us to testify.

If you have any questions, we will be pleased to answer them.

Senator HATFIELD. Mr. Irving Brownstein, please, the Deputy Chief of the Safety and Special Radio Services Bureau, Federal Communications Commission.

STATEMENT OF IRVING BROWNSTEIN, DEPUTY CHIEF, SAFETY AND SPECIAL RADIO SERVICES BUREAU, FEDERAL COMMUNICATIONS COMMISSION; ACCOMPANIED BY HAROLD R. WOODYARD, ACTING CHIEF, AVIATION AND MARINE DIVISION

Mr. BROWNSTEIN. Thank you, sir.

With me is Harold R. Woodyard, who is an engineer and the Acting Chief of our Aviation and Marine Division.

I will very briefly say that the Commission, of course, fully supports the bill as it is now written, S. 699.

The main point that we want to make in connection with this bill is that to achieve the safety purpose envisioned by the bill, we construe the listening watch requirement to mean that the radiotelephone equipment must be available to the people on a bridge in a manner that will permit the navigation frequency to be monitored continually while the vessel is navigating. Unless this listening watch is maintained, we feel that the basic purpose of the legislation would be defeated.

The only additional comment that I would want to make—and again this is for the purpose of clarification—the bill provides for the use of portable equipment, and I want to make it clear that, in our

opinion, the same requirement for a continuous listening watch would apply to the use of portable equipment as to the use of installed equipment.

Thank you, sir.

Senator HATFIELD. Thank you, Mr. Brownstein.

Let me ask you, when you state, as I understood you to have just said, that section 5—the continuous watch requirement—is really the heart of this matter: Do you agree in practical terms? Or let me put it this way: How burdensome would it be, say, upon an operator to be able to monitor the distress channel, the bridge-to-bridge channel, and the normal business channel all at the same time? Is this a practical requirement?

Mr. BROWNSTEIN. Sir, first, it is our opinion that if there is a conflict between the safety purpose of the bill and other uses of the radiotelephone equipment, it is obvious to us that safety ought to be served.

Second, we think that indeed it is practical—if a vessel wishes to monitor that number of frequencies, it is practical by the simple addition of a receiver which is capable of monitoring on the additional frequencies. Such a receiver would cost, we believe, something less than $100.

Senator HATFIELD. Less than $100?

Mr. BROWNSTEIN. That is right, sir.

Senator HATFIELD. So in other words, technically speaking, there is an additional receiver which would simplify the proposition here of three channels being monitored simultaneously? Is that what you are saying? That this technical device, economically speaking, is within a $100 range of cost?

Mr. BROWNSTEIN. Correct.

Senator HATFIELD. About how far do signals from this type of radiotelephone carry?

Mr. BROWNSTEIN. They will vary. A piece of portable equipment will give you a range of something around 10 to 15 miles. An installed piece of equipment, a permanently installed piece of equipment, will give you a range up to 30 miles. The variation depends very much on the height of the antenna which would be used.

Senator HATFIELD. Thank you very much, Mr. Brownstein.

Mr. BROWNSTEIN. Thank you, sir.

(The statement follows:)

STATEMENT OF THE FEDERAL COMMUNICATIONS COMMISSION

Mr. Chairman, I am Irving Brownstein, Deputy Chief of the Safety and Special Radio Services Bureau, of the Federal Communications Commission. I appreciate this opportunity to appear before the Committee to present the Commission's views on S. 699, a bill to require a radiotelephone on certain vessels while navigating upon specified waters of the United States.

This bill is part of the legislative program of the Department of Transportation. You have heard the testimony of Admiral Rea of the Coast Guard, chief proponent of the bill.

The basic thrust of the bill is to enhance the safety of navigation by providing radiotelephone communication between the bridges of certain vessels on the navigable waters of the United States.

The bill has a long history and has undergone a number of refinements. The Federal Communications Commission supports enactment of S. 699. Because of the technical nature of the bill I would like to explain briefly the Commission's position and then attempt to answer any questions you may have.

Section 5 of the bill requires that 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, maintain or cause to be maintained a listening watch on the designated frequency. Our position is simply this—to achieve the safety purpose envisioned by the bill, we construe the listening watch requirement to mean that radiotelephone equipment must be available to such persons on the bridge in a manner that will permit the navigation frequency to be monitored continually while the vessel is navigating. Unless the listening watch is maintained at all times while the vessel is navigating in the waters designated, so that the person in charge of the movement of the vessel knows when someone is trying to reach the vessel on that frequency and is made aware of all navigational communications affecting the vessel, the basic purpose of the legislation would be defeated.

We believe it is clear that S. 699 now requires a listening watch at all times on the designated frequency. While we have no objection to the use of portable equipment as provided in the second sentence of Section 5, the requirement that the watch be maintained at all times would apply regardless of the type of equipment used to satisfy the requirement.

Furthermore, even though a watch is continuously maintained, its value might be diminished, or even nullified, by the introduction into the channel of extraneous communications. Accordingly, we believe that the term "navigational information" as used in Section 2, line 10 of the bill may eventually require definition in order to limit permissible communications on the navigational frequency. We believe, however, that should such a definition eventually be required, it can be provided through agency regulations.

Adoption of S. 699 would be a significant step forward in maritime safety and we support its enactment.

Senator HATFIELD. I will turn the hearing over to our distinguished Chairman, Mr. Long.

Senator LONG (presiding). I want to thank Senator Hatfield for the fine work he did in conducting the hearing. I apologize to the witnesses that I could not be here sooner. The Senate was in session, and I was managing the debt limit and social security bill on the floor of the Senate on behalf of the Senate Committee on Finance.

Is Mr. Joseph Glynn here? We would like to call on Mr. Joseph Glynn, president of the Radio Officers Union, and Mr. Ben J. Man, deputy executive director, AFL–CIO Maritime Committee.

I would suggest that we print your statement in its entirety, and you might then want to just summarize it.

STATEMENT OF JOSEPH GLYNN, PRESIDENT, RADIO OFFICERS UNION, AFL–CIO, WASHINGTON, D.C.

Mr. GLYNN. Thank you, Mr. Chairman. I intend to do so.

The organization heartily supports and endorses this legislation. We feel that it is long overdue that two vessels in congested waters should have the capability of communicating with one another directly and quickly.

I think the record reflects that we need something along those lines.

We have two observations to make regarding the bill.

No. 1 would be our desire that the language in the bill be clear as to where authority would be reposed for administration and enforcement of the legislation. The bill mentions the Secretary, the Coast Guard and the Federal Communications Commission. I leave that to the judgment of the Congress as to where that authority should vest; but it should be clear where it does vest. That is one point.

Our other point is, simply stated, that the equipment used for bridge-to-bridge radio navigational communications should be used solely for that purpose; should be a separate piece of equipment;

should be single-channel equipment. There has been a lot of discussion about somebody being on one frequency and someone else on another frequency. We do not know if it is the entire answer, but it might be worth a try.

Those are our two comments regarding the legislation.

Senator LONG. Thank you very much.

You prefer this bill to H.R. 6971 of the last Congress, I take it?

Mr. GLYNN. Yes, sir. For two reasons: No. 1, it would impose a continuing watch; and No. 2, it would specify that it be kept on a designated frequency.

Senator LONG. Thank you very much.

Mr. GLYNN. Thank you, Senator.

(The statement follows:)

STATEMENT OF JOSEPH P. GLYNN, RADIO OFFICERS' UNION, AFL–CIO

My name is Joseph P. Glynn. I am the President of the Radio Officers' Union, AFL–CIO. Our organization represents radio officers who are employed aboard U.S. Flag oceangoing vessels.

I wish to thank the chairman and members of the committee for affording me the opportunity to appear and make a statement on S. 699.

In July of 1969 I appeared on behalf of our organization before the Subcommittee on Coast Guard, Coast and Geodetic Survey, and Navigation, of the Committee on Merchant Marine and Fisheries of the House of Representatives and made a statement on the merits of H.R. 6971 and H.R. 5189. Inasmuch as S. 699 is similar to H.R. 6971 (and S. 1240) many of the comments I shall make today will likewise be similar to those made in 1969.

In 1969 our prime concern lay in two areas:

1. The intended use of multi-channel equipment with it's inherent dangers, as opposed to single channel equipment, for bridge-to-bridge radiotelephone navigational safety communications, and

2. The division of authority for administration, interpretation and enforcement among several Federal agencies. (The proposed legislation in 1969 would have involved the Secretary of Transportation, the Coast Guard, the Federal Communications Commission, and ". . . other cognizant agencies.")

Our prime concern today is still in those same two areas.

Prior, proposed legislation on the subject of bridge-to-bridge radiotelephone (H.R. 6971 et al) specifically permitted the use of multi-channel equipment for navigational safety communications. We suggested at that time, and we so suggest again today, that in many cases the practical effect would be to merely "plug in" the bridge-to-bridge safety system into an already existing complex communications system. The bridge-to-bridge channel would simply take its place alongside nine, 19 or 29 other channels. There would, no doubt, be some sort of notice posted near the equipment to the effect that the equipment should be kept on the bridge-to-bridge channel as much as possible. The efficacy of such a notice at nighttime on a darkened bridge, and in an emergency, is open to serious question.

The expected questions arose as to who would be responsible for keeping the multi-channel equipment on the correct channel, who would be responsible for moving to another channel, who would be responsible for determining when it was "safe" to move away from the bridge-to-bridge channel and under what circumstances, who would be responsible for returning to the bridge-to-bridge channel, and who, finally, would be held responsible if the equipment was, in fact, operating on a non bridge-to-bridge channel at the time of a collision.

The hearings on H.R. 6971 were replete with commentary on the subject. One thing was clear; no one (master, mate or pilot) wanted to swallow the entire responsibility in that type of situation. We can hardly blame them.

S. 699 in its present form is silent on the specific subject of using multi-channel radiotelephone equipment for bridge-to-bridge radiotelephone navigational safety communications. It appears, though, that such equipment could be utilized as the language in Section 3. (4) provides that vessels shall have radiotelephone equipment "* * * capable of transmitting and receiving on the frequency *or frequencies* within the 156–162 Mega-Hertz band * * *." (Emphasis added.)

The inherent danger in using multi-channel radiotelephone equipment for bridge-to-bridge navigational safety communications cannot be overemphasized. Simply stated, it is this:

If you are sailing down a river (or in other congested waters) and are about to meet another vessel, it would be nice to know that he is listening on the right channel if you have to talk to him. It would also be nice to know that he is talking on the right channel if you have to listen to him. With multi-channel equipment you could *never* be 100 percent certain. Enlarge, if you will, this situation to encompass four or five vessels, each using 20-channel or 30-channel radiotelephone equipment. The result, more often than not, is likely to be one of confusion and doubt.

The most recent, typical example involving an attempt to use multi-channel radiotelephone equipment for navigational safety communications took place in the early morning hours of January 18th at the entrance of San Francisco harbor. The S.S. ARIZONA STANDARD and S.S. OREGON STANDARD, both U.S. Flag vessels, collided. Fortunately there was no loss of human life, but 840,000 barrels of bunker oil were dumped into San Francisco harbor and ultimately 60 miles of California coastline were affected.

Both vessels were equipped with radiotelephone equipment and reports of the incident indicate that there was considerable confusion as to who was listening for whom, and on what channel, or channels.

According to reports, the master of the ARIZONA STANDARD could not establish radio contact with the OREGON STANDARD. According to the master of the OREGON STANDARD, his radiotelephone was working and was monitoring three channels! Three channels, but apparently not the correct channel. The master of the OREGON STANDARD tried a quick radiotelephone call, . . . "but there was no more time."

Meanwhile, the Coast Guard station ashore (watching the impending collision on radar) tried unsuccessfully to contact the OREGON STANDARD. The conclusion was that the vessel was not monitoring the Coast Guard channel.

And so it goes. There are channels and channels . . . and there are collisions and collisions.

The hearings conducted by the Coast Guard and a subcommittee of the House Merchant Marine and Fisheries Committee should shed some light as to the part played, or not played, by radiotelephone in the ARIZONA STANDARD/ OREGON STANDARD incident.

Having voiced our opinions as to the inadvisability of utilizing multi-channel radiotelephone equipment for bridge-to-bridge navigational safety communications, we now propose an alternative. An alternative which has the virtues of simplicity, stability, reliability, economy, and—above all—safety.

We believe very strongly that a completely separate and distinct piece of radiotelephone equipment should be used for bridge-to-bridge navigational safety communications, that it should be used solely for that purpose, and that it should be single-channel equipment so that it would be impossible to shift it to another channel.

In the field of shipboard electronic equipment, simplicity, stability and *reliability* go hand in hand. The more complex the equipment, the more susceptible it becomes to malfunction and breakdown. If bridge-to-bridge radiotelephone is to be an aid to navigation, its value will be in direct proportion to its reliability. Single channel equipment, used for one specific purpose, is significantly more reliable by its very nature.

Section 6 refers to the operating condition of the bridge-to-bridge radiotelephone equipment, malfunctions, and the efforts required to restore such equipment to proper operating condition. We suggest that single channel equipment will keep malfunctions to a minimum and when they do occur their correction will be quicker, easier and less expensive. Single channel equipment will also help to keep to a minimum those instances where the master of a vessel is faced with the thorny decision of making an on-time arrival, for example, as opposed to the safest navigation of his vessel. Ideally, there should be but one consideration, but events and circumstances may often sway heavily in the opposite direction.

As to economy, the claim may be made that requiring a separate piece of equipment—to be used solely for bridge-to-bridge navigational safety communications—will impose an additional financial burden upon each vessel required to be so equipped. Such a claim is debatable. Experience has shown that the initial purchase price is but a small portion of the total costs involved. Maintenance and repair costs over the useful life of the equipment are a better barometer as they invariably account for the lion's share of the total costs. Maintenance and repair

costs for existing, multi-channel, vessel-installed radiotelephone equipment used for bridge-to-bridge purposes could easily exceed the purchase price and maintenance and repair costs of relatively uncomplicated single channel equipment.

Insofar as safety is concerned, there is just no comparison between single channel equipment which would *always* be operating on the bridge-to-bridge channel, and multi-channel which *hopefully* is operating on the bridge-to-bridge channel.

We are concerned, as we have mentioned, with the administration, interpretation and enforcement of the Act.

The members of our organization (except in very unusual instances) will not be directly involved with the operation of bridge-to-bridge radiotelephone equipment. They will, however, be very much involved with the inspection, maintenance and repair of any such vessel-installed equipment. Criteria and standards will certainly evolve concerning the installation, inspection, maintenance and repair of such equipment. We would like to be able to deal with just one agency. We would not like to be caught between two agencies with different ideas and different interpretations of the same piece of legislation.

We believe that authority should be centralized, preferably within the Federal Communications Commission where communications matters have traditionally been handled. The Coast Guard, of course, should act in a consultative role.

We are not submitting any proposed amendments to the language contained in S. 699 but will gladly do so if it is the desire of the committee.

Thank you.

Senator LONG. Next we will call on Capt. Robert J. Lowen, assistant to the president of the International Organization of Masters, Mates, and Pilots.

STATEMENT OF CAPT. ROBERT J. LOWEN, ASSISTANT TO THE PRESIDENT, INTERNATIONAL ORGANIZATION OF MASTERS, MATES, AND PILOTS, NEW YORK CITY, N.Y.

Captain LOWEN. Thank you, Mr. Chairman. I will be extremely brief in view of the lateness of the day and the hour.

The organization I represent wholeheartedly and enthusiastically endorses S. 699, with certain very minor modifications.

Our feeling is that this bridge-to-bridge equipment is nothing more or less than another aid to navigation. We do not envision it as any means for public communication. As such, we have two points we would like to make.

One is that a listening watch should be maintained while underway.

Second, it should be maintained only by the master, the pilot, or the officer in charge of the navigation watch, and operated only by one of those officers.

That is all we have to say, sir.

Senator LONG. How do you feel about the provision that requires portable equipment?

Captain LOWEN. In point of fact, Mr. Chairman, this is what the customary practice is now.

Parenthetically, I might add that I am a deep sea master, skipper of the largest diesel-powered ships in the merchant marine, and I am on vacation and assisting Capt. Tom O'Callaghan in his job. And whenever we come into any of the ports, we have very fine—I won't mention the name of the maker, it is an American manufacturer—VHF equipment with simplex and duplex channels. We monitor continually channel 16, which is the safety channel. The pilot brings onboard portable equipment which we prop up in the window and monitor whichever the working channel is on the particular body of

water we are sailing on. So we do monitor two channels continuously on deep sea vessels.

Senator LONG. Are you aware of instances when a listening watch should be maintained when a vessel is stopped but is not at anchor?

Captain LOWEN. Yes, sir. There are instances when it might be required, but our feeling is that this should be left to the discretion of the master, since he is the one who has the responsibility, both the civil and criminal responsibility, for anything that might go wrong.

The situations in which we would envision this is, for instance, we may be backing out of a slip, and customarily we will indicate that this is the motor vessel *Old Dominion State* slipping out of slip 4, all vessels up and down, take care. Or maybe at anchor or in fog, under that situation the bridge would be manned and we would be monitoring a safety channel and a particular working channel watch.

Senator LONG. I see. Do you think that ought to be discretionary with the master?

Captain LOWEN. Yes, sir.

Senator LONG. Thank you very much.

Captain LOWEN. Thank you, Mr. Chairman.

(The statement follows:)

STATEMENT OF CAPT. ROBERT J. LOWEN, ASSISTANT TO THE PRESIDENT, INTERNATIONAL ORGANIZATION OF MASTERS, MATES, AND PILOTS, AFL–CIO

Mr. Chairman, my name is Capt. Robert J. Lowen; I am Assistant to the President of the International Organization of Masters, Mates, and Pilots, AFL–CIO, the labor organization representing over 95% of the American licensed deck officers. Our members are the men who command and are responsible for the navigation of U.S. merchant ships throughout the world. In addition, our organization represents pilots and pilots' associations throughout the United States and in the Panama Canal Zone and the Pacific Trust Territories. We wholeheartedly and enthusiastically endorse S. 699, with minor modifications that I will discuss in a moment.

One of the principal concerns of our organization has always been the safety of the crews, passengers, ships and cargo for which our members are responsible. We view this proposed legislation as providing a vitally necessary additional aid to navigation and pilotage on ships in the territorial waters of the United States. The lives of men who go to sea and the investments of maritime and commercial interests in ships and cargo are far too valuable to overlook any opportunity for increasing safety in the navigation of vessels in our home waters. We believe it would be tragic if small differences in economic interests or viewpoint should have the result of frustrating the enactment of this much-needed legislation.

The point we wish to emphasize most strongly today is that this proposal would provide another aid to navigation, and simply that. It is not proposed as a means of communicating for any other purpose. Suggestion has been made that the proposal may in some measure impinge upon existing contractual relations with licensed radio operators. Whatever difficulties may exist in this area is a matter, in our judgment, for resolution between the owners and the radio operators. Insofar as this Sub-Committee is concerned, it is our view that the matter before you concerns safety of life and property. In order for this measure to make a meaningful contribution to that subject, it is essential that any radiotelephone device on the bridge be immediately accessible to the master or pilot or deck officer whom the master designates. If any intermediary were placed between the officer in charge of the ship's navigation and the source of navigational information coming through that radiotelephone, not only would there be a danger of mis-transmission of information, but of delay which could mean the difference between collision and near-miss in many congested traffic situations. Knowledge of navigational terms, charts, buoys, lights and other aids to navigation is absolutely essential for an adequate understanding of information relayed from bridge to bridge. Accordingly, in the view of the men who command and navigate vessels, it would be unthinkable for anyone not a navigational officer to be placed in that chain of communication.

It is important for this Sub-Committee to consider that in the navigation of ships it is the master of the ship who is ultimately responsible under our laws for the safety of the lives and property under his command. His is one of the few professions imposing criminal as well as civil liability for negligent acts or failures to act. If anyone not trained in navigation were injected into the navigational chain of command, our organization would be obliged to resist that change by all means possible. The man legally responsible for the ship and its crew and contents is the man who *must* control the navigation and operation of the ship.

We have minor modifications to suggest in the bill that we think will improve it immeasurably. First, we believe it is not intended that the listening watch requirement be maintained even when the ship is at anchor. Consequently, we recommend that the bill be amended to make it clear that the requirement of a listening watch applies only when the ship is under way. This could be accomplished by adding on line 12 of page 3 of the bill the words "while under way" following the words "shall maintain."

Second, we believe that this mandatory bridge-to-bridge communication bill should not change existing practices and procedures. At present portable radiotelephones are carried aboard most ships by the pilot, who maintains a listening watch on this radio by keeping it on in the pilothouse or on the wing of the bridge at all times while he is piloting the ship. This permits the navigational radio to be monitored continuously by the master, the pilot and the officer in charge of the watch. The bill should specify, therefore, that the maintenance of a listening watch is the responsibility of the master or person designated by the master to pilot or direct the movement of the vessel and of no one else; in addition, it should make clear that this listening watch should be maintained as it is now on the navigating bridge of the vessel, and nowhere else. These objectives could be realized by deleting the words in line 12 page 3, of the bill, "or cause to be maintained" and substituting the words "on the navigating bridge of the vessel."

Senator LONG. Next we will call on Vice Adm. Paul E. Trimble of the Lake Carriers Association. We are pleased to have you.

STATEMENT OF VICE ADM. PAUL E. TRIMBLE, U.S. COAST GUARD (RETIRED), PRESIDENT, LAKE CARRIERS ASSOCIATION, CLEVELAND, OHIO

Admiral TRIMBLE. Thank you, Mr. Chairman.

I am very pleased to be here representing the bulk carriers on the Great Lakes. I would like to add our support to this bill, along with the other witnesses that have appeared today.

I think it is one of the more significant pieces of maritime safety legislation that has been considered in recent years.

At the same time, I do not feel that this is the final end, the panacea, to all safety problems, but considering the qualifications of the master along with this bill, we feel it could go a long way toward improved maritime safety.

I would appreciate it if my statement is included in the record in full, Mr. Chairman.

Senator LONG. That we will do.

Admiral TRIMBLE. We on the Lakes have been using bridge-to-bridge telephones for 37 years, so I think that we have some experience to offer in this respect.

We have been utilizing, first, the medium frequency; and then when VHF came into use and it was tried out, we have been using that procedure for 20 years. Since it is not a mandatory requirement, the use of this equipment, of course, is entirely voluntary. So all of our vessels have this equipment and use the procedure.

For foreign vessles coming on the Lakes, a pilot is required; and coming through the St. Lawrence Seaway, there is a requirement for equipment also. So, therefore, we do have the equipment. But since

it is not mandatory to be used, then of course, we cannot be assured that there will be somebody listening at the other end.

In my statement I have called attention to our views on one particular feature of the bill which appears to us to be a little bit inconsistent with some later portions of the bill. And I have made recommendations in my statement that the bill could be strengthened by clarifying that particular point.

I hope this is not nit-picking, but I think it would lay the groundwork for a better bill for the long run as far as the administration of it is concerned.

Senator LONG. Well, thank you very much, sir.

Have you discussed the problem of keeping a log with the Federal Communications Commission?

Admiral TRIMBLE. No, sir; I have not.

Senator LONG. I see. Do you believe that the Secretary's discretion in section 7 is broad enough to permit continued use of the Great Lakes multichannel system?

Admiral TRIMBLE. Yes, Mr. Chairman, I do believe it is broad enough.

Senator LONG. I see. And you state that the Lake Carriers are in favor of the continuous listening watch requirement in section 5?

Admiral TRIMBLE. Yes, sir.

Senator LONG. At present, your operators already monitor more than one frequency. Has that posed a serious problem for them?

Admiral TRIMBLE. No. It does not under the present mode of operation, Mr. Chairman. We are monitoring channel 16, which has been previously referred to. This is the distress/safety/calling frequency. We are monitoring that all the time while we are underway, while the vessel is being navigated. And then if we have occasion to exchange navigation information, we would call on that frequency and shift to another frequency; and we have for that purpose three other frequencies which are designated.

On the Great Lakes, our communications system is based upon an international agreement with Canada. This has been worked out with the State Department and the Federal Communications Commission and with appropriate counterpart Canadian authorities. And in the agreement these additional frequencies for the exchange of navigation information are included, in the treaty. It is recognition that over the years experience has shown that it is desirable to have more than one frequency to shift to and not put all of our eggs in one basket where one frequency would have to be used for both calling and exchanging navigation information.

Mr. Chairman, I have one question. You used the words "continuous listening watch," and I would like to call attention that the bill uses the language "listening watch." I do not profess to be a qualified interpreter of this, but there could be a distinction between "listening watch" as mentioned in section 5, I think it is, of the bill, and "continuous listening watch." Perhaps this might be cleared up in the report of the bill.

Senator LONG. I see. Well, I would suggest that you consult our staff and advise how you think it might best be cleared up, Admiral.

Thank you so much.

(The statement follows:)

STATEMENT OF VICE ADM. PAUL E. TRIMBLE, PRESIDENT, LAKE CARRIERS' ASSOCIATION

My name is Vice Admiral Paul E. Trimble and I am President of Lake Carriers' Association of Cleveland, Ohio. The membership of Lake Carriers' Association consists of some 18 separate companies owning and operating an aggregate of 194 bulk cargo vessels enrolled and licensed under the laws of the United States and authorized to be employed either in the coasting trade or foreign trade on the Great Lakes (46 U.S.C. Sec. 258). These vessels have a total trip-carrying capacity in excess of 2,650,000 gross tons and represent virtually the entire American flag Great Lakes bulk cargo fleet.

We are pleased to have this opportunity to appear in full support of the bridge-to-bridge radio concept. However, we do not at this time support the concept of a single dedicated frequency for the exchange of navigation information. We believe the Bill would be strengthened by the striking of Lines 9, 10 and 11 of Section 2, as follows:

"To effectively accomplish this, there is need for a specific frequency dedicated to the exchange of navigational information, on navigable waters of the United States."

Such a finite provision in the law restricts administrative flexibility in developing a universal system at the outset and making changes that may become desirable in the future as experience dictates or technology makes possible. So that the Administration may be able to adequately deal with this, I recommend the addition of two words, "implementation and," in Line 17 in Section 8(b) to be inserted before the word "enforcement."

One of the primary purposes of Lake Carriers' Association is the promotion and preservation of navigational safety. In its endeavor to promote and preserve navigational safety, Lake Carriers' Association has been directly concerned, for many years, in radiotelephone matters affecting the Great Lakes, and, on behalf of its member companies, has frequenctly appeared before the Federal Communications Commission in rulemaking proceedings involving the development and utilization of radiotelephone communications.

SAFETY EXPERIENCE OF GREAT LAKES VESSEL INDUSTRY

We are proud to point out numerous marine safety practices which originated on the Great Lakes and have since been adopted in ocean shipping, or are being adopted. Use of load lines (1905); use of designated tracklines for upbound and downbound vessels (1911); use of radar on commercial vessels (1943); for the most part, rules of the road for vessels did not originate on the Lakes, but some of the rules that have been generated there are far superior to the international rules in use.

As for bridge-to-bridge radio, our vessels started using this procedure in 1934, and have been using it ever since then. In 1936 a medium frequency, 2182 kc, evolved as a common safety/distress/calling channel for U.S. commercial vessels, Canadian commercial vessels, Coast Guard vessels, and Canadian government vessels. Then in 1947, at the International Telecommunications Union (ITU), Atlantic City Radio Conference, 2182 kc was designated as the world-wide, international safety/distress/calling channel.

On the Great Lakes, at first only one working channel was provided, 2003 kc Channel 52. This was compulsory along with coverage of the safety/distress/calling frequency of 2182 kc which was to be continuously monitored. Additional channels were found to be necessary so were incorporated into the system.

EVOLVEMENT OF VHF

Even before the Great Lakes agreement came into effect, it was becoming increasingly evident that the MF radiotelephone system alone, although multi-channel, could not handle the growing volume of navigational traffic. Since a very large percentage of navigational traffic is short range, less than 25 miles, the possibility of using VHF was explored. Based on the favorable results of experimental operational studies made in 1946, using forty VHF sets loaned by the United States Coast Guard, Lake Carriers' Association petitioned the FCC for the establishment of a VHF system embodying the principle of universality of contact, found so essential in the MF radiotelephone system.

In the early 1950's the FCC authorized a multi-channel VHF maritime radiotelephone system built around the use of 156.8 mc/s (Channel 16) as the safety/calling channel. Utlimately, this Great Lakes VHF radiotelephone system furnished the pattern for the present international maritime VHF system specified in the International Telecommunications Union radio regulations.

At the Baltic-North Sea Radio Conference held at Goteborg, Sweden, in September 1955, it first became evident that international standardization of VHF was possible. In January 1957, the conference of European nations at The Hague, Netherlands, resulted in the creation of a 28-channel VHF system using 156.8 mc/s (Channel 16) as the safety/calling channel. The 1959 Geneva Radio Conference of the International Telecommunications Union produced world-wide standardization of the present VHF radiotelephone system.

The Great Lakes maritime mobile channels in use in the VHF (FM) bands 156–162 mc/s for the exchange of navigational information are listed in the following table:

Function	Channel	Frequency
Intership (primary)	6	156.3
Intership and limited coast	7A	156.35
Intership (secondary)	8	156.4
Coast Guard and U.S. locks	12	156.6
Port operations	13	156.65
Coast Guard and Canadian locks	14	156.7
Distress/safety/calling	16	156.8

While under existing law VHF is not required on American flag Great Lakes vessels, the system has been so effective that today every Great Lakes bulk cargo vessel and all harbor tugs are equipped with VHF. The regulations of the St. Lawrence Seaway Development Corporation require that all commercial vessels transiting the Seaway be equipped with VHF (33 C.F.R. Sec. 401–102.10), with the result that all Canadian vessels and all foreign flag vessels entering the Great Lakes through the St. Lawrence Seaway are similarly equipped.

CURRENT USE OF BRIDGE-TO-BRIDGE RADIO ON THE GREAT LAKES

Great Lakes vessels monitor through open speakers, both 2182 kc/s (Channel 51 51) and 156.8 mc/s (Channel 16), the distress/safety/calling channels in the MF and VHF bands, respectively. As a practical matter, however, VHF now serves as the primary means of intership communications on the Great Lakes, medium frequency (AM) being a backup system to VHF (FM). VHF is used to make safety calls between vessels and from ship to shore; it is utilized to contact docks, locks and lift bridges; it receives periodic and special weather and hydrographic information. Three VHR intership working channels have been found to be necessary.

Security calls on the distress/safety/calling channels announce a vessel's approach to a harbor, or to a blind river turn and at designated course crossings in the open lakes. Security calls permit vessels to announce their respective positions and intended directions before a contemplated meeting or passing. Thus, much more than simple bridge-to-bridge communications are involved.

RECOMMENDATIONS

A single dedicated channel requirement in the law for the exchange of navigational information at this time would seem to disregard 37 years of experience of a safety-minded Great Lakes fleet in using bridge-to-bridge radio. Further it is seemingly incompatible with other radio requirements for Great Lakes vessels. For example, currently the regulations of the St. Lawrence Seaway Development Corporation and the Canadian Seaway Authority are being revised to require at least four VHF channels. Moreover, the "Treaty Between the United States and Canada for the Promotion of Safety on the Great Lakes by Means of Radio" is in the process of renegotiation and the latest draft thereof requires at least four channels for the exchange of navigational information. We recommend that this timely legislation not be structured so rigidly that the Administration and industry affected do not have flexibility in implementation and making future changes as experience and technological changes dictate or make possible.

At present the master, or his designee, has to listen to the "noise," crackling, static or voice, from two nearby receivers at his conning station, 2182 kc for medium frequency and 156.8 mc for VHF. If a third receiver dedicated to bridge-to-bridge radio is required, an additional distraction is added to the noise level already on the bridge. At the same time, the master is trying to keep track of his position in the channel to listen for buoy signals, whistle signals from other vessels, plus handling normal ships' business.

Striking out Lines 9, 10 and 11 of Section 2 and inserting the words "implementation and" in Line 17, Section 8(b), just before "enforcement" would provide the flexibility we recommend. Further, this would appear to be more consistent with Section 3(4) Lines 22, 23 and 24, where the capability of transmitting and receiving on the frequency or frequencies within the 156–162 Mega-Hertz band is stipulated.* I emphasize use of the word "frequencies" as compared to the words "a specific dedicated frequency" used in Sec. 2.

One final recommendation, in the interest of reduced paper work on board ship without affecting safety, the FCC should have latitude in requiring or eliminating the keeping of a radio log of bridge-to-bridge radio transmissions. Such calls are in the nature of whistle signals which are not logged. Also, there is no requirement that taxicabs and most shore installations log their calls. A master has enough to do during extended navigation of channels, especially at night or during adverse weather, without having to methodically log such routine traffic. Bridge-to-bridge radio is navigation related; consequently, significant communications should be reflected in the ship's navigation log.

Thank you, Mr. Chairman, for this opportunity to be heard on S. 699, a Bill in which Great Lakes shipping is very interested. We also appreciate the timely Congressional interest in this program which is completely oriented towards marine safety.

Senator LONG. Our next witness will be Mr. Edward Phillips, speaking for the American Institute of Merchant Shipping.

We will print your prepared statement in the record.

STATEMENT OF EDWARD PHILLIPS, ON BEHALF OF AMERICAN INSTITUTE OF AMERICAN SHIPPING

Mr. PHILLIPS. Thank you, Mr. Senator.

The American Institute of Merchant Shipping is in support of S. 699. We have submitted a prepared statement. This statement describes the role played by our members in originating the bridge-to-bridge radiotelephone concept, subsequent development, and the present need that we see for legislation on this subject.

Since we were in full support of the bridge-to-bridge bill as approved by the House and considered by this committee last year, we also comment in our statement on the one change from that bill, H.R. 6971, which occurs in this bill.

We endorse the addition of the new sentence in section 5 which recognizes the use of portable equipment, but we do have some concern lest the deletion of the sentence from the present bill may create unnecessary hardship for certain categories of vessels.

We recommend that the problem sentence be looked at again with a view to its possible modification and reinsertion. That part of our discussion is contained in the last two full pages of our statement.

Thank you very much.

Senator LONG. Thank you very much, sir.

(The statement follows:)

STATEMENT OF AMERICAN INSTITUTE OF MERCHANT SHIPPING (AIMS)

The American Institute of Merchant Shipping is a national trade association of the steamship industry, comprised of 32 United States companies which own and operate some 500 U.S.-flag oceangoing passenger and cargo vessels, tankers, and dry bulk carriers in the foreign and domestic trades of the United States. These vessels represent 55% of all active privately owned tonnage registered under the U.S. flag and aggregate about 8,400,000 deadweight tons.

This bill would amend the navigation laws of the United States to require a VHF–FM radiotelephone on the bridges of vessels while navigating upon United States waters. The purpose of this short distance radiotelephone is to exchange

*The change would be consistent with Line 12 in Sec. 8. (a) authorizes the FCC to prescribe operating conditions and characteristics, including "frequencies"; emphasis supplied.

information from the bridge of one vessel to the bridge of another to insure safe navigation. This objective has our wholehearted support.

Upon present-day capabilities, when we can talk to a man on the moon, and even when trucks and taxicabs on our city streets use the radiotelephone as a normal instrument of their day-to-day operations, it is almost ridiculous for ships worth tens of millions of dollars, with thousands of dollars worth of radio equipment aboard, not to be able to talk to each other on a routine basis for navigational communication.

In order for navigational communication to be successful, a system is required, composed of three essential elements:

1. Each ship within the area must have radiotelephone equipment capable of operating on a common specified frequency or frequencies;
2. Each ship within the area must be listening on the common frequency designated for the area; and
3. The equipment must be constantly available for use by the person in charge of the vessel's movement.

This bill would establish a system encompassing these elements. We support it as a valuable aid to the safety of navigation.

The concept of bridge-to-bridge radiotelephone usage for navigational exchanges as contemplated under this legislation originated within our industry some years ago.

On June 4, 1957 a Special Committee (called together by the Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area) met to explore the feasibility of adopting a simple bridge-to-bridge radiotelephone system as an aid to navigation, with the particular objective of reducing the number of serious accidents that were then common in the Delaware River and Bay area.

Various possibilities were discussed and eventually a program was recommended which, through the cooperation of the Delaware River Pilots, could be made effective on a voluntary basis without the compulsion of law.

The program envisioned inexpensive, simple to operate, single channel voice radio equipment which would be carried by all commercial craft (including government vessels). It would be used solely for navigational exchanges and for scene-of-action communications involving any maritime emergency.

The equipment would either be fitted on the vessel, or brought aboard by the pilot. It would be monitored continuously, and be instantly available for use. Each vessel would be able to hear navigational exchanges between other vessels in the vicinity. For these reasons the navigational exchanges would be conducted on a single-channel restricted to such navigational exchanges, and completely independent of any other communication services of the vessel.

As a result of petitions received from the industry the Federal Communications Commission subsequently designated a VHF–FM radio frequency from within the maritime bands for this specific navigational use.

The Delaware River program became fully operational on November 1, 1960. In later years this bridge-to-bridge radiotelephone concept took hold in other major harbor areas throughout the country. In each case the programs were worked out in cooperation with the pilots and local port authorities. The following listing may not be complete, but to date we know such programs exist in the following ports or waterways: Delaware River, Hudson River, Lower Mississippi River, Houston Ship Channel, Sabine-Neches Waterway, Galveston-Texas City Channel, Newark Bay, Tampa Bay and Harbor, and New York Harbor. In most cases the shipowners financed these programs by payment of a surcharge added to the pilots' bill for the purpose of reimbursing the pilots for rental and maintenance costs or, when equipment was owned by the pilots, for the cost of its maintenance and amortization.

There are also port radiotelephone systems in existence in the Baltimore-Chesapeake Bay area and in Port areas on the West Coast, including San Francisco, Los Angeles, San Diego, Puget Sound, the Oregon Coast and Columbia River Basin. These systems evolved on a somewhat different basis, and include limited coast stations located at points ashore as part of the safety program. For this reason, the frequency or frequencies used are not the same frequency which is used in the single-channel systems.

Experience gained by these voluntary programs has demonstrated that the use of bridge-to-bridge radiotelephone does in fact make a valuable contribution to safety. Statistics compiled by the United States Coast Guard indicate that over a six-year period (1/1/55–11/1/60) prior to the implementation of the bridge-to-bridge radiotelephone program in the Delaware River and Bay there were

1.27 collisions per month. During the four years and eight months (11/1/60–6/30/65) immediately following the institution of the Delaware program, the rate dropped successively to an average of .91 per month. By 1964 the rate was only .5 per month; and during the first six months of 1965 the rate decreased further to .3 per month—live statistical evidence of the safety value of the continuously monitored, single-channel bridge-to-bridge radiotelephone system. We do not have any statistical data more recent than this. However, we do understand that since this program became operational there has not been a single severe collision in the Delaware area under circumstances when both vessels were in communication with each other.

Many major foreign harbors have port *radar* systems in operation which monitor vessel movement. In these systems ship to shore communication for navigational safety is handled over the VHF radiotelephone, and the installation of VHF radiotelephone equipment has become an operational requirement for ships using these foreign harbors. Therefore, a large percentage of foreign vessels entering U.S. ports are already fitted with VHF equipment as are U.S.-flag liner vessels that are engaged in operations to foreign ports where VHF port information and radar guidance systems exist. Most U.S.-flag tank vessels, operating primarily in the domestic trade, are also fitted with VHF radio.

Radar has long since become an instrument of almost universal usage in the maritime service. It will in the near future become mandatory equipment for all vessels over 1600 grt by IMCO Regulation. The navigational telephone is a complementary tool which is used with radar in the avoidance of collision.

Many towboats have been fitted with and use the VHF radio in their business operations. Also, they have cooperated in many cases in the voluntary industry programs. However, towboat participation is not necessarily consistent because of their heavy use of the radiotelephone for business purposes.

A current example of the need for bridge-to-bridge radiotelephone legislation is created by the construction of a new rapid transit tunnel under the East River in New York Harbor. We have been informed that during the installation of the subway tubes the West Channel of the East River off 63rd Street, Manhattan, will be closed to navigation for a total of 15 days; and its navigable width reduced to 300 feet for 20 days, 320 feet for 46 days, 325 feet for 16 days and 370 feet for 50 days. Only one-way vessel traffic will be permitted while the navigable width of the channel is so restricted. During this critical period great reliance will be placed by navigators and pilots on the use of VHF bridge-to-bridge radiotelephone communication equipment in the interest of avoiding collisions in the area of restricted channel width. Unfortunately, not all vessels navigating this area will have on board VHF bridge-to-bridge radiotelephone equipment, and the Coast Guard presently lacks legislative authority to impose such requirement.

For the record, in the same way that all vessels are subject to Navigational Rules of the Road, we believe that legislation in this matter should apply equally to both government and non-government vessels.

The Committee is aware, of course, that this bill differs in one respect from legislation (H.R. 6971) approved by the House of Representatives during the last Congress. The change made was deletion from Section 5 of the sentence "The master or person in charge may permit the use of the radiotelephone on other authorized frequencies within the maritime mobile band whenever there is no risk of collision.", and the addition of a new sentence which states "Nothing contained herein shall be interpreted as precluding the use of portable radiotelephone equipment to satisfy the requirements of this act."

Our organization was in full support of H.R. 6971 as it passed the House, and the aforementioned change led to a further review by our Operations and Legal Committees. The addition of the new sentence in Section 5 to recognize the use of portable radio equipment is considered a constructive amendment and has our full endorsement. On the other hand, a number of our members own and operate towboats as well as ocean vessels, and have pointed out that the deletion of the above noted sentence creates a problem for them. With respect to such vessels, the VHF radiotelephone is an important operational equipment which is used for business purposes, as well as safety. Unlike the larger ocean vessels, towboats do not have separate radio rooms nor do they carry Radio Officers. Their necessary communications are handled by deck personnel in the same way that this has been done for years by vessels in the Great Lakes. Consequently, unless the inflexibility of the listening watch requirement is modified, such vessels will suffer an impairment of their presently efficient use of the VHF equipment.

In view of this, our Committees recommend that the matter be reconsidered, possibly leading to restoration of the deleted language.

An alternative might be to adopt language based upon Article 7, paragraph 5 of a proposed revision of the Great Lakes Radio Agreement (Promotion of Safety on the Great Lakes by Means of Radio), Ottawa, 1952 which has already received preliminary approval by the Federal Communications Commission and should, therefore, be acceptable to them.

The present Great Lakes Agreement clearly exonerates the vessel from the required continuous effective listening on the distress frequency by aural means "when the radiotelephone installation is being used to transmit or receive on frequencies authorized for the Maritime Mobile Service." [Paragraph 1(c) of Article 7]

The new Article 7 similarly requires continuous effective listening, but under paragraph 5 of this Article, vessels may be permitted by their national Administration to temporarily suspend the required continuous listening watch in order to engage in Maritime Mobile Communication on other frequencies.[1] In any event, the precedent of the Great Lakes Agreement suggests the possibility that the deleted sentence might be reinstated, but its applicability made subject to such conditions as may be specified by the Federal Communications Commission. If the Committee does not find this suggestion acceptable, we urge that the possibility of obtaining administrative relief be indicated in the Committee report.

ARTICLE 7

OPERATORS AND LISTENING

1. While a vessel is subject to the requirements of this Agreement, as stated in Article 3 of this Agreement:

(a) There shall be on board, as an officer or member of the crew of vessel, at least one person whose qualifications for radiotelephone operation for safety purposes on the Great Lakes have been certified by the Contracting Governments, each for citizens of its own country for employment on vessels of that country, and either for persons for employment on vessels of other countries, as meeting the qualifications set forth in the Regulations.

(b) From among those certified persons, the master shall designate one or more who shall operate the radiotelephone installation. The duties of the persons so designated need not be restricted to duties in connection with the radiotelephone installation but may include any and all duties assigned them by the master.

(c) Except when the radiotelephone installation is being used to transmit or receive on frequencies authorized for the Maritime Mobile Service, there shall be continuous effective listening on the distress frequency by aural means by at least one officer or member of the crew of the vessel who has been designated by the master to perform such listening. The person so designated by the master may simultaneously perform other duties relating to the operation or navigation of the vessel, provided that such other duties do not interfere with the effectiveness of the listening.

(d) If the vessel is deprived of the services of the certified persons referred to in subparagraph (a) of this Article without fault or collusion of the master, the vessel may, as a matter of temporary expediency, proceed on her voyage, provided:

(i) The master shall exercise due diligence in an effort to obtain a qualified replacement before sailing and failing that shall exercise due diligence to obtain a qualified replacement as soon as practicable,

(ii) The qualified replacement is made at the destination of the vessel before proceeding on another voyage, and

(iii) In addition to the foregoing, the master shall within 12 hours after the time of arrival of the vessel at her destination, explain, in writing, the full particulars in the matter to the Contracting Government of the country to which such vessel belongs. If the vessel does not belong to the country of either Contracting Government, the master's written explanation shall be made to the Contracting Government of the country where the vessel's destination is located or to the Contracting Government in which the vessel's last port of call on the Great Lakes is located.

2. If and when a system, consisting of an alarm signal and an auto alarm apparatus actuated by such signal transmitted on the distress frequency, is adopted by both Canada and the United States for use on the Great Lakes, an approved auto alarm in operation may be substituted for the continuous, aural listing pre-

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[1] For completeness sake the text of Article 7 of the present Great Lakes Agreement, and the comparable Article 7 of the proposed new Agreement are appended hereto, quoted in full.

scribed in paragraph 1 of this Article. Adoption of such system by both Canada and the United States for use on the Great Lakes, as well as the conditions under which is may be used, shall be accomplished by appropriate amendment of the Regulations.

WORKING PAPER—PRELIMINARY TECHNICAL PROPOSALS FOR AMENDMENT OF THE AGREEMENT FOR THE PROMOTION OF SAFETY ON THE GREAT LAKES BY MEANS OF RADIO

ARTICLE 7: SHIP STATION OPERATORS AND LISTENING WATCH

1. There shall be on board, at least one operator whose qualifications for radiotelephone operation for safety purposes on the Great Lakes have been certified by the Contracting Governments each for citizens of its own country on vessels of that country and either for persons on vessels of other countries, as meeting the qualifications set forth in the Technical Regulations.

2. From among those certified operators, the master shall designate one or more who shall operate the radiotelephone station. The duties of the operators so designated need not be restricted to duties in connection with the radiotelephone station but may include any and all duties assigned them by the master.

3. There shall be an effective continuous listening watch on the distress, safety and calling channel, or channels, required by the Technical Regulations by at least one person who has been designated by the master to perform such listening. The person so designated may simultaneously perform other duties relating to the operation or navigation of the vessel, provided that such other duties do not interfere with the effectivenss of the listening.

4. Notwithstanding paragraph 3 of this Article, Contracting Governments may require that the continuous listening watch shall be maintained on a frequency other than the distress frequency while the vessel is within designated national waters of a Contracting Government where it assumes the distress watch for the vessel.

5. Vessels may be permitted by Contracting Governments, each with respect to its own national waters, to temporarily suspend the continuous listening watch required under paragraph 3 or paragraph 4 of this Article, in order to engage in Maritime Mobile communications on other frequencies.

6. A vessel shall not be navigated unless the qualified radio operator required under paragraph 1 of this Article is on board. However, if the vessel is deprived of the services of such operator while underway the master shall notify authorities of the Contracting Governments of this fact, and shall comply with such instructions as may be given by those authorities. In any event, the master shall obtain a satisfactory replacement operator at the earliest practicable moment.

Senator LONG. The next witness will be Mr. Francis Barry of Circle Lines.

Mr. Barry.

STATEMENT OF FRANCIS J. BARRY, PRESIDENT, CIRCLE LINE-SEEING YACHTS, INC., CIRCLE LINE-STATUE OF LIBERTY FERRY INC., AND HUDSON RIVER DAY LINE, INC.

Mr. BARRY. Thank you, Mr. Chairman.

I have a brief statement.

Mr. Chairman and members of the Subcommittee on Merchant Marine, my name is Francis J. Barry. I am president of Circle Lines which consists of Circle Line-Sightseeing Yachts, Inc., Circle Line-Statue of Liberty Ferry, Inc., and Hudson River Day Line, Inc., owners of 16 passenger vessels of over 100 gross tons which operate in the New York Harbor area.

I sincerely appreciate the opportunity of appearing before you in respect to S. 699, which legislation we are most vitally concerned with, as it would require each of our 16 passenger vessels to have a radiotelephone capable of operating from the vessel's pilot house.

Gentlemen, this legislation can, under certain conditions, be of help to pilots of large ships in limited single channels when the number of ships in the immediate area does not exceed two or three at the maximum, and the pilots of these ships are known to each other and the ships are readily identifiable.

However, it could possibly create chaos in the New York Bay and Harbor area where many channels cross at varying angles and large areas of the bay have deep water so that medium-draft vessels are not confined to the limited marked channels, but proceed across the areas at the angle which serve the purpose of the pilot.

The number of vessels traveling in the New York Harbor area at the totally varying angles and in the majority of cases without the necessity or the advantage of marked channels would certainly lead to a disastrous situation due to the number of craft involved using one radio channel which will result in transmission being cut off and total chaos created where none existed before.

We have been operating passenger vessels in the New York Harbor area for a lifetime and have never experienced or become aware of one instance where radiotelephone communication between small passenger vessels could improve safety.

The most overriding reason why we consider the contents of the bill as a menace to the safety of our relatively small passenger vessels is the permissiveness to compromise the rules of the road, and should two pilots of vessels in a crowded area decide on such a course and because of transmission cut off or any other radio difficulty, the probable six or eight other vessels in the immediate area would be unaware of the compromise of the rules of the road, and chaos referred to in my opening statement would be a reality.

We, therefore, respectfully suggest that ships of over 2,500 gross tons be required to comply with the proposed legislation as these ships are limited to the deeper marked channels, are easily recognized, comparatively few in number, and in command of fully licensed Sandy Hook pilots who are personally acquainted and can advantageously use this type of communication.

Circle Line companies must particularly object to this proposed legislation where it applies to passenger vessels over 100 gross tons, as it owns and operates 16 of the 20 inland passenger vessels of over 100 gross tons that are inspected and certificated by the U.S. Coast Guard here in the United States, and must therefore consider the proposed legislation as discriminatory, keeping in mind that there are thousands of passenger vessels here in the United States that measure under 100 gross tons that are inspected and certificated by the U.S. Coast Guard to carry from 6 to 1,100 passengers.

We must emphasize again that we have spent a lifetime in the operation of inland passenger vessels and have been and will continue to be keenly interested in any legislation that could possibly add to our most enviable safety record, and have more experience in the operation of inland passenger vessels than any other owner or operator or regulating agency in the United States.

We, therefore, wish to be on record as stating that this proposed legislation, where it applies to inland passenger vessels of over 100 gross tons, as being ill-conceived and not in the best interests of those on whom it is planned to impose it, and is in fact a most serious threat to the safety of our operations.

This legislation appears to cover the remaining 20 passenger vessels here in the United States, 16 of which are owned and operated by Circle Lines, and exempts thousands of passenger vessels under 100 gross tons that are inspected and certificated each year by the U.S. Coast Guard to carry anywhere from 6 to 1,100 passengers.

We sincerely hope that in recognition of our excellent safety record, Circle Line vessels will be exempt from this legislation.

And I wish to further add, sir, I understand that the Coast Guard in answer to the committee's question advises as follows, and I quote from their record:

> 100 gross tons was chosen for passenger vessels as an added safety measure for this class because small passenger vessels of less than 100 gross tons do not have a history of collisions.

Circle Line boats in the past 30 years have had not one collision.

The proposed legislation it appears to us should only apply to large oceangoing ships and large integrated tows using narrow channels, as apparently the difficulty in the control of these units and the need for voice communications in congested channels results in collisions which influence the Coast Guard or other agency to propose this legislation.

Thank you, sir.

Senator LONG. Thank you very much.

Well, that then concludes our hearing. The committee will meet on call of the Chair for an executive session to discuss this legislation.

Thank you very much, gentlemen.

(Whereupon, at 4:10 p.m., the subcommittee adjourned, subject to the call of the Chair.)

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

STATEMENT OF THE AMERICAN RADIO ASSOCIATION, AFL–CIO, AND THE AFL–CIO MARITIME COMMITTEE PRESENTED BY HARVEY STRICHARTZ, TECHNICAL DIRECTOR, ARA

Mr. Chairman, Distinguished Members of the Committee. My name is Harvey Strichartz. I am a member of the National Council of the American Radio Association, AFL–CIO, and its Technical Director.

I appear today on behalf of the American Radio Association, AFL–CIO, which is one of the two labor organizations representing ship Radio Officers. Mr. Joseph Glynn, President of the Radio Officers Union, is likewise to appear.

Between them, the ARA and ROU represent the Radio Officers on 90% of the deepsea U.S. Flag Ships, operating out of the seaports ou the Atlantic, Gulf of Mexico, and the Pacific Coasts of the United States, in coastwise, intercoastal and foreign trade.

The position ARA and ROU take towards this Bill is identical.

In appearing before your Committee, I also speak for the AFL–CIO Maritime Committee which consists of approximately 80 percent of American maritime labor. The Unions affiliated with the Committee are: The National Maritime Union; International Longshoremen's Association; American Radio Association; National Marine Engineers' Beneficial Association; United Steelworkers of America; and the International Organization of Masters, Mates and Pilots. However, I do not speak for the IOMMP, which will make its own position clear.

We are pleased with the opportunity to appear before your Committee and comment on S. 699 to require radiotelephones for exchange of navigational information in certain waters.

All of our seagoing affiliates are vitally concerned with any legislation that would improve the safety of life at sea, and increase their chances of returning from their voyages to the safety of their homes and families. We therefore support the position taken by our affiliate, the American Radio Association in favor of this Bill and making its objective realizable by clarifying ambiguities in the legislation.

At the outset, let me state plainly and unequivocally, that we support the stated objective of the Bill, to effect the safety of navigation through exchange of navigational information between the bridges of various vessels. There are difficulties we anticipate might result from what we consider vague and ambiguous formulations in the Bill, and I would like to explain what they are, and present our proposals to correct them, either in the Bill itself, or in the Report of the Bill.

Let me also state, without equivocation or qualification, that the exchange of navigational information between the navigating bridges of vessels, whether by the Captain, any of the Deck Officers, or the Pilots who come aboard to maneuver vessels in or out of ports, by means of single channel radiotelephone, such as is contemplated in the Bill, presents, has presented and should present no jurisdictional problem if the matter is handled correctly. We hope that the suggestions we make with respect to the ambiguities of the Bill will be adopted, so that this entire matter may be approached without creating new, and possibly major problems in the process.

Historically, ship Radio Officers have provided communications for merchant ships not only for their commercial needs, not even primarily for commercial needs, but mainly for the safety of the vessel. For the 72 years that radio has been aboard ships, the Radio Operators—as we were known at first—and later, since 1947, the Radio Officers, as we were desingated by Act of Congress in that year—have provided ships with more than the means to alert other vessels to distress situations aboard our own ships, or to go to the assistance of other vessels in distress.

Beyond curative procedures, we have also provided communications for the safe navigation of the vessel in a preventative sense; that is to say, it has been the ship Radio Officer who has been supplying the vessel with detailed weather reports, with the synoptic information sent by radiotelegraph to enable navigators to prepare weather charts, and, more recently, with the radio facsimile weather maps, which are received by Radio Officers aboard vessels and provided to the Bridge.

Down through the years, it has been the Radio Officers who have been responsible for reception of notices to navigators of various menaces to navigation, such as floating derelicts, storms, cyclones, hurricanes, and warnings of buoys or lights out of position, or other navigational aids operating inaccurately.

We feel certain that it is not the intention of this Bill to remove from the vessels existing radio facilities or personnel, or to diminish these aids to safe navigation through radio, or to shift the reception of this material, the provision of these communication services for safety of navigation, from the Radio Officers who have provided them so well down through the years, and whose special skills are still necessary to perform them. We therefore have no hesitancy in supporting the purpose of S. 699, and appear today to make our suggestions for ensuring that this purpose is achieved. Let me begin by noting that the original legislation which was before the last session of Congress did not contain a statement of purpose such as is present in S. 699 as Section 2. We are pleased with the inclusion of this clear statement of purpose and urge that it be retained, without change. Our support of this Bill is based, among other things, on the inclusion of the present Section 2.

Let me next address myself to what we consider a prime flaw in the Bill: the Agency given primacy in its administration and enforcement. U.S. Law has many existing provisions for the safety of life at sea through radio, established most recently in the 1937 Amendments to the Communications Act of 1934; prior to that through the Federal Radio Act. Down through the years these provisions have been administered and enforced by the Federal Communications Commission and its predecessor organizations, such as the Federal Radio Commission. In 1937, Congress amended the Communications Act, providing in Section 1, that the Federal Communications Act would have as one of its objectives, "the purpose of promoting safety of life and property through the use of wire and radio communications."

A serious flaw we find in this Bill is that it legislates a vital radio safety requirement, but leaves vague the question of whether it is to be administered and enforced primarily, by the FCC, an arm of Congress, which has done so well the work of providing safety of life at sea through radio, or by the U.S. Coast Guard.

We recognize that the U.S. Coast Guard performs well its legitimate functions. We have no quarrel with the Coast Guard. To the contrary, we are admirers of some of the very fine work they have been doing, such as the establishment of the AMVER vessel reporting system. Our Collective Bargaining Agreements require that our members participate in AMVER at no cost to the Companies whatsoever. We recognize that the Coast Guard's role in search and rescue is a brilliant contribution to the safety of all of our lives at sea, so we are not in the least interested in down-grading the Coast Guard or demeaning it, by any means. However, we feel that the specific provisions for safety of life at sea through radio required in this Bill, should be clarified to keep basic control of its provisions, along with all other radio safety provisions, under the FCC. The Commission should have control of this system, and should implement it in all respects, in consultation with the U.S. Coast Guard on such matters as navigational practices and Rules of the Road.

Unfortunately, this Bill does not make clear whether primary control over the new radio provisions shall be vested in the Coast Guard (through the Secretary of the Department of Transportation in which the U.S. Coast Guard is now lodged), or with the FCC.

We do believe that the primary authority over these new provisions should be lodged with the FCC, and that the Report should so state. We have a sea safety radio system now being implemented by the FCC, quite often in consultation with the U.S. Coast Guard. We think that any new requirements for radio safety should continue to be enforced by the FCC, and the Coast Guard should continue in its consultative role. Unless the divisions of authority that is proposed in this Bill is clarified, the results could be harmful to sea safety through radio. We have therefore prepared a suggested change in the language of the Bill which you will find in our Attachment A, as Item 1; in the alternative, the same results could be achieved through similar language in the Report.

It would provide primary administration and enforcement, not by the Secretary of Transportation, an instrument of the Executive Branch of the Government, but rather, by the FCC, an arm of the Congress.

Third, we note that this Bill, which is designed to set up safety arrangements to prevent collisions in certain waters, does not include various types of craft, such as fishing vessels under 300 gross tons, or vessels carrying passengers for hire *under* 100 gross tons. On both of these types there is a great stake in human life; both encounter the same hazards as the Bill sets out to remedy, both present

similar hazards to other vessels, and we strongly feel that both these classes of ships should be covered in its provisions. Our suggested changes in this respect will be found as Item 2 in our Attachment A.

Fourth: We wish to ensure that the purpose of the Bill, to provide a specific frequency dedicated to the exchange of navigational information, on navigable waters of the United States will be effected. We are pleased to note a crucial difference between Section 5 of S. 699 and the same Section of H.R. 6971 considered at the previous session of the Congress. The previous draft had what would have been a fatal flaw in its proviso that would have permitted "the use of radiotelephone on other authorized frequencies within the maritime mobile band when there is no risk of collision." The FCC asked for the deletion of this provision and we supported the Commission. In making our decision to support S. 699 we have taken cognizance of the fact that this provision is not present, and that Section 5 now requires that whoever is in charge of a vessel "shall maintain or cause to be maintained a listening watch on the designated frequency", without the previous permission for interrupting such watch. The Committee should keep this provision that the watch be maintained, rather than intermittent or interrupted, as the previous Bill's provision permitted. We ask that any relief from the requirement that a continuous watch be maintained at all times in navigable waters of the United States be in the Report, and not by changes of the text. In any event, no exception should be made for the ocean-going vessels of 1600 gross tons and over, for reasons which we shall later explain.

Fifth: We note that a sentence has been included in Section 5 of the Bill permitting "the use of portable radiotelephone equipment to satisfy the requirements of this Act." We are entirely in accord with the inclusion of this provision. It is consistent with the provision made by the Shipowners and the two radio Unions, for bridge-to-bridge radiotelephone usage (attached as Appendix 2.)

Aboard the larger vessels having Radio Officers, specifically the ships of 1600 gross tons and over, which are already required by Law and Treaty to carry radio equipment and Radio Officers, the objectives of this Bill may best be implemented by fitting the vessels with portable equipment, as Section 5 would permit. The possibility that there might be a diminution of attention to the navigational exchanges would be avoided by use of a portable single channel device on the bridge, independent of any other device. This would then permit the use on other channels of the multi-channel VHF that is now installed in the radio room, while the listening for navigational exchanges would go forward on the bridge uninterrupted in any manner or for any reason. It would be absolutely no economic hardship to the oceangoing vessels, which have operating costs of hundreds of thousands, and sometimes of millions of dollars per year, to fit a separate single-channel device, which, the U.S. Coast Guard estimates would cost from Two to Six Hundred Dollars. And it is precisely these larger vessels, to whom the fitting of a separate device would be no hardship, that this system would be the maximum benefit, for a number of reasons:

First of all, the stake in human life is greater on these ships.

Secondly, the stake in property is greater; some of these vessels cost in the tens of millions of dollars, and may carry a cargo valued in the tens of millions.

Third, in this manner, the possibility of jurisdictional problems arising would not be diminished; they would be removed completely. Let me tell you why:

The ARA and the ROU, as Mr. Glynn will point out, have in the past provided in their Collective Bargaining Agreements the procedure set forth in Appendix 2, for the use of single-channel VHF radiotelephone on the bridges of vessels for bridge-to-bridge exchanges of navigational information by ships' Captain, Pilot or Mates. This had previously been clearly set forth in our earlier Collective Bargaining Agreement, and in 1969 when these Agreements were open for revision, there was an opportunity for either party to press for changes; no changes were made in these provisions.

These above-mentioned collective bargaining provisions clearly state that these navigational exchanges may be performed by Captains, by Deck Officers and by Pilots, on a single-channel, bridge-to-bridge frequency designated for safety of navigation.

We would therefore very strongly urge that your Committee adopt the language of Section 5 without change.

We had noted another ambiguity that might have created serious problems in Section 6 of the Bill, the second sentence of which reads:

> If the radiotelephone equipment carried aboard a vessel ceases to operate, the Master shall exercise due diligence *to restore it* to effective operating condition at the earliest practicable time.

This language might have encouraged persons other than the technically trained Radio Officer to believe that they have been given a green light to tinker with the equipment in question, rather than call the specialist Radio Officer who now provides technical maintenance and who presently performs such repairs and adjustments as may be needed. However, aboard vessels carrying Radio Officers, the purpose of the Bill will be effected by the present practice required by the Collective Bargaining Agreements, pursuant to which the Master orders the Radio Officer, who has the training and technical competence to make repairs, to go ahead and restore it to operating condition. If any one were to get the notion, by misreading the intent of this legislation, that the Congress is telling the Master to become a technician Radio Officer and to undertake these repairs, it would be most unfortunate. First of all, because the Master already has a large number of exacting duties of his own to perform; second, because it takes a considerable amount of time and training to perform this work effectively, and third, because the Collective Bargaining Agreement rights of Radio Officers would be impinged upon, with all the problems that would certainly be involved.

We are not asking the Congress to enter our contractual relationships with our employers. We are simply asking that the Congress, in the passage of legislation, avoid ambiguity that might create awkward situations, might create problems which might snowball into great difficulties in the maritime industry. We would say that the simple changes we have proposed in Attachment A, as Item IV, that "the Masters shall exercise due diligence in seeing that it be restored to effective operating condition at the earliest practical moment," instead of "to restore it," would implement the intent of this Bill wishout creating new difficulties.

We have been reassured as to the intention of this Act by the statement during the discussion on the floor of the House of Representatives made on the day the predecessor Bill, HR 6971 was passed by the House, by the Chairman of the House Subcommittee on Marchant Marine & Fisheries, The Honorable Edward Garmatz:

> "This legislation is intended only to provide for communication between bridges of ships for the exchange of navigational information. It is not intended to replace existing radio facilities for safety or such Radio Officers carried aboard vessels as are required under existing law or agreements."

In view of this statement by Chairman Garmatz, we cannot see any reason why jurisdictional or collective bargaining problems should arise.

In summing up my statement, I would urge the Committee to clarify the primary responsibility for this legislation's implementation to be by FCC, broaden its coverage to include fishing craft and vessels of under 100 gross tons carrying six or more passengers for hire, retain Section 5 as presently worded, and remove any ambiguities that might set one group aboard the ships against another on the question of jurisdiction and work duties.

Thank you for the opportunity to present our views and suggestions on this legislation.

ATTACHMENT A—PROPOSED CHANGES IN S. 699

I. To clarify the fact that primary administration and enforcement of the Act shall be by the Federal Communications Commission, it is recommended that the following changes be made:

A. Add a new paragraph (4) to Section 3, reading: "(4) "Commission" means the Federal Communications Commission."

B. In Section 7, delete "Secretary" and substitute "Commission".

C. Change Section 8 (b) to read: "b) The Commission shall, in consultation with the U.S. Coast Guard, prescribe regulations for the enforcement of this Act."

D. Delete "Secretary" and substitute "Commission" at the three places where "Secretary" appears in Section 9.

II. To permit the broadest possible coverage of the Act, specifically include fishing vessels in Section 4, and insert an additional paragraph (5) reading:

"(5) Every vessel of less than 100 gross tons carrying six or more passengers or fishermen for hire while navigating;"

III. To avoid ambiguity that might lead to conflicts, and to effect the purpose of the Act to provide for the exchange of navigational information between the bridges of vessels, it is recommended that the following changes be made:

A. Insert an additional definition in Section 3, reading: "(5) "Exchange of navigational information" means the transmission or reception of information relating directly to the process of moving a craft from one point to another in the waters specified in Section 4 (b), with a view to the safety of all involved craft.

IV. To avoid misunderstanding that might lead to conflict in the area of equipment maintenance and repair, and to effect the purposes of the Act, it is recommended that the second sentence of Section 6 be changed to read:

"If the radiotelephone equipment carried aboard a vessel ceases to operate, or operates improperly, the Master shall exercise due diligence *to have it restored to effective operating condition* at the earliest practical time."

This would make it clearer than the present text that on vessels carrying a specialist Radio Officer such maintenance and repair to the equipment would continue to be performed, as in the past, by such technically trained and competent Radio Officers.

APPENDIX

BRIDGE-TO-BRIDGE

(g) Notwithstanding any provisions of this contract to the contrary, relative to any bridge-to-bridge radio communication, the following shall be observed:

1. Maintenance and repair of all such radio and/or electronics equipment shall be performed only by the Radio Officer and/or Radio Electronics Officer.

2. Masters, Mates, Radio Officers and/or Radio Electronic Officers and/or Pilots may perform the duty of making such exchanges as are related to the safety of navigation, utilizing the frequency for such navigational exchanges available in the area.

3. Such frequency shall be supplied to the bridge extension of said radio and/or electronic equipment by the Radio Officer and/or Radio Electronics Officer from the radio room, except that where said frequency is not available in the radio room equipment or in the case of the radio frequency authorized for navigational exchanges only by national regulation and/or international agreement, single-channel equipment independent thereof may be used.

4. All multichannel radio and/or electronic equipment shall be installed in the radio room and operated, maintained and repaired only by the Radio Officer and/or Radio Electronics Officer.

BOARD OF COMMISSIONERS
OF THE PORT OF NEW ORLEANS,
New Orleans, La., March 9, 1971.

Re: S. 699—A bill to require a radiotelephone on certain vessels while navigating upon specified waters of the United States.

Hon. RUSSELL B. LONG,
Chairman, Merchant Marine Subcommittee of the Senate Commerce Committee, Washington, D.C.

DEAR SENATOR LONG: The Board of Commissioners of the Port of New Orleans is an agency of the State of Louisiana and is responsible for the operation and development of the Port of New Orleans. Our jurisdiction extends over approximately 51 miles on both banks of the Mississippi River in the Parishes of Orleans, Jefferson and St. Bernard.

Heavy river traffic has created navigational congestion within this area, and resulted in numerous collisions and marine accidents with attendant loss of life and high property damage. On April 6, 1969, the collision between the M/V Union Faith and the Tug Warren J. Doucet and its oil barge tow created a holocaust in the center of our Port and City area. 25 lives were lost in this tragedy and major waterfront property loss was narrowly averted.

Adequate bridge to bridge radiotelephone communications, required and utilized between vessels when underway, are considered most desirable in the interest of safe navigtion. This desirability becomes mandatory when navigating congested areas where strong currents, restricted visibility due to weather or river bends, and machinery breakdowns create extremely hazardous conditions.

With the desire of improving the safety aspects of navigation throughout our Port limits, and reducing the number of accidents therein, the Board of Commissioners of the Port of New Orleans does therefor fully support Senate Bill S. 699.

Sincerely yours,

EDWARD S. REED,
Executive Port Director and General Manager.

OFFICE OF THE MAYOR,
San Francisco, Calif., March 12, 1971.

Hon. WARREN G. MAGNUSON,
Chairman, Senate Committee on Commerce,
Washington, D.C.

DEAR SENATOR MAGNUSON: On behalf of the Mayor and Board of Supervisors of the City and County of San Francisco, I want to commend you for your introduction of and support for S. 699, the Vessel Bridge-to-Bridge Radiotelephone Act. We feel that this legislation is vitally needed and we urge its prompt enactment.

You will recall that on January 18 two oil tankers collided in San Francisco Bay, causing great contamination and pollution of the Bay and its environs. Many individuals have indicated that the protection provided by bills such as S. 699 could possibly have prevented this unfortunate collision. We certainly subscribe to this point of view, and we cannot overemphasize our concern for immediate action by Congress on this measure.

Attached is a copy of a resolution adopted by the Board of Supervisors which urges enactment of legislation and regulations which will prevent oil contamination of San Francisco Bay and other coastal waters. In addition, the Mayor's Office is submitting to the Merchant Marine Subcommittee a statement of support for S. 699.

Sincerely,

ROBERT E. JOSTEN,
Washington Representative.

Enclosure.

URGING AUTHORITIES OF THE GOVERNMENT AND THE STATE TO ENACT AND ENFORCE LEGISLATION AND REGULATIONS WHICH WILL ACT EFFECTIVELY TO PREVENT OIL CONTAMINATION OF SAN FRANCISCO BAY AND OTHER COASTAL WATERS THROUGH DISCHARGE OF OIL AND OIL DERIVATIVES FROM TANKERS AND OTHERWISE.

RESOLUTION NO. 92–71

WHEREAS, The collision of two oil tankers in San Francisco Bay on January 18, 1971, was the most recent of an alarming and growing number of similar incidents throughout the world which are inflicting incalculable damage upon coastal cities and their environs and which have occasioned deep, urgent and growing concern on the part of local governments whose geographical areas are susceptible to the ecological tragedies resulting from the accidental discharge of oil and oily substances into navigable waters; and

WHEREAS, The highly objectionable dispersion of oil in coastal waters is disastrous in its contamination and pollution of natural resources which otherwise are the subject of intensive programs of protection; and

WHEREAS, it is incumbent upon the appropriate State and Federal authorities to make and enforce laws and regulations which, to the maximum extent possible, will prevent similar collisions and consequent water pollution by controlling and limiting movements and routes of vessels carrying oil and oil derivatives so that the possibility of accidental discharge will be minimized; now, therefore, be it

RESOLVED, That the Board of Supervisors of the City and County of San Francisco do hereby petition the Congress of the United States and the California State Legislature to enact and provided for the effective enforcement of legislation and regulations which will prevent such oil dispersion in coastal waters; and, be it

FURTHER RESOLVED, That the Board of Supervisors do hereby strongly urge the Congress of the United States and the Legislature of the State of California to act immediately to pass legislation requiring the presence of qualified pilots on all vessels carrying hazardous cargo, including oil and oil derivatives; and, be it

FURTHER RESOLVED, That the Board of Supervisors urges said legislative bodies to enact legislation to provide for the strict control of the movement of vessels in weather conditions of poor visibility, including the authority to forbid vessels carrying hazardous cargo to leave port when weather conditions so dictate; and be it

FURTHER RESOLVED, That the Board of Supervisors urges the United States Congress to enact legislation to require bridge-to-bridge radiotelephone communication between vessels within the navigable waters of the United States, and in particular HR 867 (Ports and Waterways Bill) and HR 756 (Bridge-to-Bridge Radio Communications Bill); and, be it

FURTHER RESOLVED, That operable radar systems, subject to periodic inspection by appropriate Federal authorities, be required at appropriate points on shore and on board vessels within the navigable waters of the United States; and, be it

FURTHER RESOLVED, That the State be requested to designate an existing regional agency in the Bay Area as the body to coordinate regional emergency information and clean-up efforts following any future similar ecological disaster in the Bay, and to conduct necessary research into the long-term effects of such a disaster; and be it

FURTHER RESOLVED, That State and Federal authorities and the shipping and petroleum industries immediately embark upon research to develop procedures to minimize the damage, and expedite clean-up efforts, should such an accident occur again; and, be it

FURTHER RESOLVED, That the Association of Bay Area Governments and the San Francisco Bay Conservation and Development Commission be encouraged in efforts to develop model ordinances to provide protection at the regional level to supplement needed Federal and State legislation; and, be it

FURTHER RESOLVED, That the Board of Supervisors urges the United States Coast Guard to reactivate navigational aids on Alcatraz Island; and, be it

FURTHER RESOLVED, That copies of this resolution be forwarded to his Honor, the Mayor, for transmittal to United States Senators Alan Cranston and John Tunney, Congressmen Phillip Burton and William Mailliard, the members of the San Francisco delegation to the California State Legislature, and the City's State Legislative Representative, with the request that they do everything necessary to effectuate the intent of this resolution.

I hereby certify that the foregoing resolution was adopted by the Board of Supervisors of the City and County of San Francisco at its meeting of February 16, 1971.

ROBERT J. DOLAN, *Clerk.*

Approved: February 19, 1971 JOSEPH L. ALIOTO, *Mayor.*

THE PORT OF NEW YORK AUTHORITY,
New York, N.Y., March 15, 1971.

Hon. RUSSELL B. LONG,
Chairman, Subcommittee on Merchant Marine, Committee on Commerce, U.S. Senate, Washington, D.C.

DEAR CHAIRMAN LONG: The Port of New York Authority has reviewed and endorses, in principle, S. 699 which would require navigational radiotelephone communications among certain classes of vessels while navigating upon specified waters of the United States. As you well know, the recent collision of two tankers in San Francisco is a matter of great concern to governmental and port agencies as well as the Congress. To the extent that S. 699 can be helpful in avoiding such serious problems in the future, it is a most important piece of legislation insofar as the ports are concerned, and specifically, here in the Port of New York where our Federal channel system is particularly complex.

We recognize that the Rules of the Road cannot in themselves cover every possible marine navigational situation, particularly in those areas within a port where there is a heavy concentration of vessel traffic, a complex system of ship channels, and blind and sharp channel turns. Various pilots, steamship lines and small harbor craft operators already have, on a voluntary basis, adopted the use of radiotelephones for the exchange of navigational information where the risk of collision may be evident. However, its effectiveness must invariably be weakened in circumstances when not all vessels have this equipment aboard. The faster and larger ships, for example, entering and leaving this Port cannot fully depend on a partial system, or one of unknown scope.

In terms of the content of S. 699, we would offer certain comments on a few Sections of the Act that may strengthen the intent of this legislation. Section 4. (a)(4) states that "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. The term "near" would appear to leave to the discretion of the dredge or floating plant operator the decision as to when or when not to use the radiotelephone. The Subcommittee may wish to consider a more definite determination, again, in the interests of more reliable participation by radiotelephone users, and those dependent upon such users.

In Section 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 the Act, on such terms and conditions as he considers appropriate." We are somewhat fearful that full and immediate application of the Act at the Port of New York could conceivably cause communications chaos if simultaneous transmissions via one channel are involved. This is due to the heavy concentration of vessels in the Port of New York that would be subject to the Act, and the Port's complex channel network, as shown on the attached map. If, as presently written, Section 7 would allow a possibly staged application by vessel class or port sector if sought by local interests, we would suggest no change. If not, we would propose that between the words "affected" and "or" (line 4) the following phrase be inserted: "or where full and immediate application of the Act may adversely affect navigation."

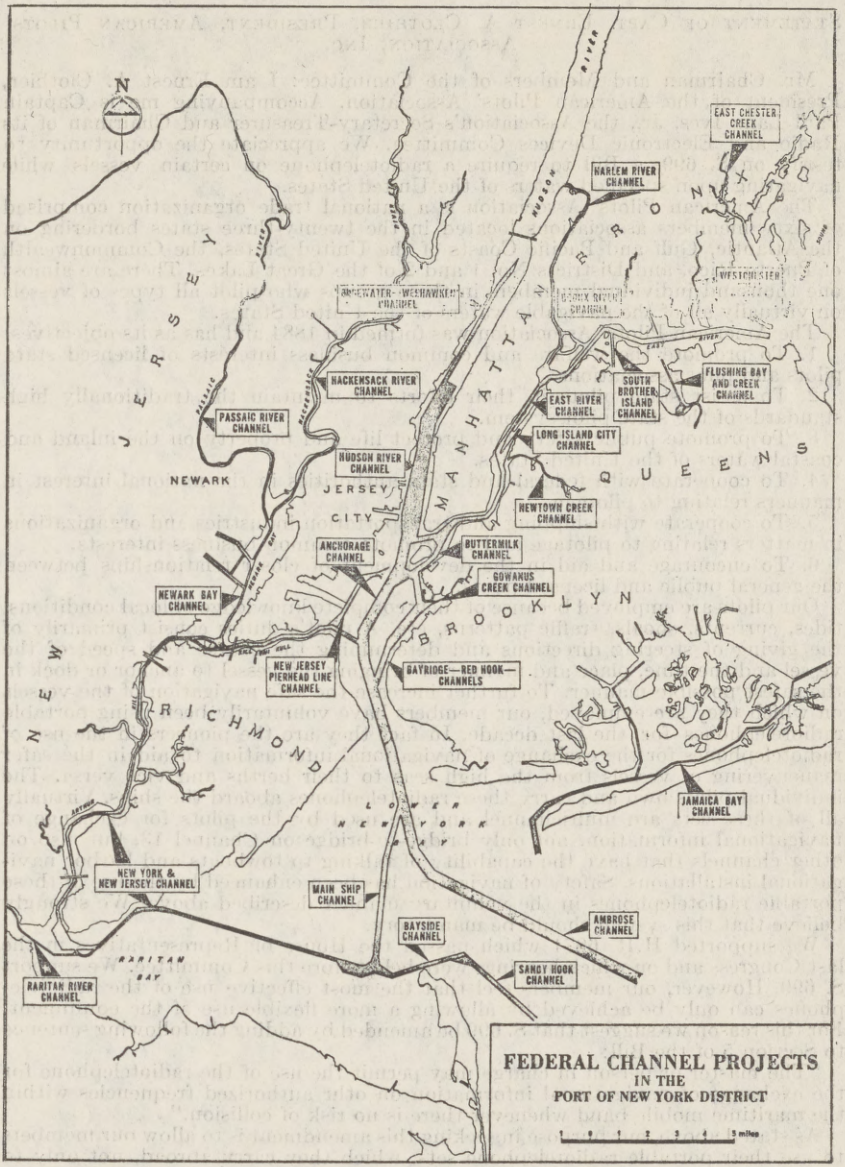
Section 8 requires that the Federal Communications Commission consult with "other cognizant agencies," in prescribing the regulations necessary for the operating and technical conditions in the use of radiotelephones. It is recommended that the phrase "cognizant Federal, State and local agencies" be substituted for "other cognizant agencies," to assure counsel with the marine activities within affected areas for the smooth transition to the mandatory use of radiotelephones. This requirement would help determine the exemptions provided for in Section 7.

We appreciate this opportunity of commenting on the provisions and intent of this Act. The Port Authority has long felt that more compulsory use of radiotelephone communications in harbor navigation is desirable from the viewpoint of safety and more efficient vessel movements. This bill would be most helpful in achieving that objective.

Sincerely,

AUSTIN J. TOBIN,
Executive Director.

Enclosure.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HACKENSACK RIVER CHANNEL
PASSAIC RIVER CHANNEL
NEWARK
JERSEY CITY
HUDSON RIVER CHANNEL
ANCHORAGE CHANNEL
NEWARK BAY CHANNEL
NEW JERSEY PIERHEAD LINE CHANNEL
BUTTERMILK CHANNEL
GOWANUS CREEK CHANNEL
BAYRIDGE—RED HOOK—CHANNELS
NEWTOWN CREEK CHANNEL
LONG ISLAND CITY CHANNEL
EAST RIVER CHANNEL
SOUTH BROTHER ISLAND CHANNEL
FLUSHING BAY AND CREEK CHANNEL
BROOKLYN
NEW
RICHMOND
LOWER NEW YORK BAY
JAMAICA BAY CHANNEL
NEW YORK & NEW JERSEY CHANNEL
MAIN SHIP CHANNEL
BAYSIDE CHANNEL
AMBROSE CHANNEL
SANDY HOOK CHANNEL
RARITAN BAY
RARITAN RIVER CHANNEL
FEDERAL CHANNEL PROJECTS
IN THE
PORT OF NEW YORK DISTRICT
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STATEMENT OF CAPT. ERNEST A. CLOTHIER, PRESIDENT, AMERICAN PILOTS' ASSOCIATION, INC.

Mr. Chairman and Members of the Committee: I am Ernest A. Clothier, President of the American Pilots' Association. Accompanying me is Captain Paul Lane Ives, Jr., the Association's Secretary-Treasurer and Chairman of its Radio and Electronic Devices Committee. We appreciate the opportunity to testify on S. 699, a Bill to require a radiotelephone on certain vessels while navigating upon specified waters of the United States.

The American Pilots' Association is a national trade organization comprised of sixty members associations located in the twenty-three states bordering on the Atlantic, Gulf and Pacific Coasts of the United States, the Commonwealth of Puerto Rico, and Districts No. 1 and 2 of the Great Lakes. There are almost one thousand individual members in these groups who pilot all types of vessels on virtually all of the navigable waters of the United States.

The American Pilots' Association was formed in 1884 and has as its objectives:

1. To promote the welfare and common business interests of licensed state pilots and pilot associations.
2. To assist state pilots in their efforts to maintain the traditionally high standards of the state pilot system.
3. To promote public safety and protect life and property on the inland and coastal waters of the United States.
4. To cooperate with federal and state authorities in the national interest in manners relating to pilotage.
5. To cooperate with shipping and transportation industries and organizations in matters relating to pilotage and to promote common business interests.
6. To encourage and aid in the development of closer relationships between the general public and licensed pilots.

Our pilots are employed because of their complete knowledge of local conditions, tides, currents, shoals, traffic patterns, etc. A pilot's duties consist primarily of the giving of steering directions and determining the course and speed of the vessel and the time, place and manner of bringing the vessel to anchor or dock in the safest possible manner. To further increase the safe navigation of the vessels on which they are employed, our members have voluntarily been using portable radiotelephones for the last decade. In fact they are the pioneers in the use of radiotelephones for the exchange of navigational information to aid in the safer maneuvering of vessels from the high seas to their berths and vice versa. The individual pilots own and carry these radiotelephones aboard the ships. Virtually all of these sets are multichannel and are used by the pilots for exchange of navigational information, not only bridge-to-bridge on Channel 13, but also on other channels that have the capability of talking to towboats and harbor navigational installations. Safety of navigation has been enhanced by the use of these portable radiotelephones in the voluntary manner described above. We strongly believe that this system should be mandatory.

We supported H.R. 6971 which passed the House of Representatives in the last Congress and on which hearings were held before this Committee. We support S. 699. However, our members feel that the most effective use of the radiotelephones can only be achieved by allowing a more flexible use of the equipment. For this reason we suggest that S. 699 be amended by adding the following sentence to Section 5 of the Bill:

"The master or person in charge may permit the use of the radiotelephone for the exchange of navigational information on othr authorized frequencies within the maritime mobile band whenever there is no risk of collision."

As stated above, our purpose in seeking this amendment is to allow our members to use their portable radiotelephone sets, which they carry abroad, not only to satisfy the requirements of this Bill, as it is presently written, but to also direct tugboats when docking and undocking, direct the positioning of the tugs when they are alongside the piloted vessel, and to exchange information with the tugboats accompanying ships in narrow waterways. It is the opinion of the members of this Association that such information is just as necessary for the safe navigation of vessels on our inland waterways as the direct exchange of navigational information is from the bridge of one vessel to the bridge of another. The pilots have proven the system works.

Thank you for the opportunity to present our views on this legislation.

MARCH 10, 1971.

Hon. WARREN G. MAGNUSON,
Chairman, Senate Commerce Committee,
Washington, D.C.

DEAR MR. CHAIRMAN: In consideration of the "Vessel Bridge-to-Bridge Radiotelephone Act," I wish to submit my views as a private citizen. I have had 20 years experience as a ship's Radio Officer and in steamship company management. Presently I spend approximately 50% of my time permanently assigned to one of the most modern new containerships in service and the balance of my time in the Graduate School of Business at Columbia University. I have done research papers in the fields of ocean transportation and labor problems. I am currently in residence at Columbia. My remarks are directed primarily at vessels of over 1,000 gross tons which are required by law to carry a ship's Radio Officer. I wish to cover three main points. They relate to (1) authority; (2) jurisidiction; (3) technical considerations.

Authority.—The administration and authority of this act should properly lie solely within the jurisdiction of the F.C.C. With all due respects to the U.S.C.G., interpretation, implementation and enforcement of use and maintenance of an electronic communication device is outside their normal providence. In all previous such matters, the U.S.C.G. has ceded such responsibility in certification of a vessel, to the F.C.C. This has been a proven and successful practice. I believe reference to the U.S.C.G. in this instance was an oversight and should not be formalized into law.

Jurisdiction.—There is no question as to the ultimate and absolute authority of the Master, as well defined by law. But the reference that the Master shall perform or assign maintenance to any "person" who is undefined, constitutes a serious error and may easily diminish the effectiveness of this safety communications system. VHF systems are complex transmitting/receiving devices which require responsible care, maintenance and repairs requiring a high degree of skill. Currently, the Radio Officer is the only properly licensed officer capable and responsible under law for such maintenance and repair. He must be licensed by the F.C.C. as well as the U.S.C.G. It is my opinion that this continuity of authority and specific responsibility should continue, rather than remain undefined and vague.

A second consideration is the importance of accurate and legal records relating to use of a prime communication device. A shipboard log should be kept detailing when watches are stood and any reference or communications relating to safety, distress or involvement, should be recorded. In a like manner, a separate maintenance log confirming periodic testing, normal operation, time and nature of any breakdown, and corrective measures taken, if any, should be kpet. These are "no cost" items, and could easily be incorporated into existing deck logs and into the Radio Officer's maintenance logs. Such a system would tend to be self policing by assigning the responsibilities and duties to specific parties in each case.

Technical.—Most ocean going vessels today have installed a multi-channel VHF system which is widely used as a short range communications system throughout the world. Being multi-channel, this unit is used for a variety of purposes in a port area, business and personal. Any such use effectively places the unit off channel for safety purposes as required by a bridge-to-bridge radiotelephone system. For this reason, an independent, single channel, bridge-to-bridge unit should be required which cannot be used for any other purpose. It is significant to point out that the multi-channel unit can also serve as a redundant, or back-up unit in case of failure of the prime safety unit.

The prime safety unit for bridge-to-bridge communications should be so installed as to make it operable from the ship's radio emergency batteries in case of a power failure. This battery system exists and is required under law and presents absolutely no problems as an alternative source of power. Ships do have an emergency diesel-generator system usually, but there is a definite time delay in activation in cases of emergency. In any collision or severe maneuvering situation, one of the most frequent and initial failures is loss of power, or the "plant kicking out!"

My last point is that it should be specified by law that 100% of the electronic spare parts should be carried and maintained on board at all times. In addition, any test equipment necessary for repairs, maintenance and tuning, should be

required. Under almost all collective bargaining agreements today, such test equipment is already required and available with possibly the exception of any specialized equipment required by any particular manufacturer's model. Identical spare parts are not readily available overseas nor are complete repairs possible unless such parts and test equipment is available. This policy would enable full and complete repairs to be undertaken within the capabilities of the vessel's own personnel. It has been my experience, on a new ship, launched September, 1968, to date, with all new and modern equipment, that the VHF system is inoperative at least 25% of the time. This is due almost exclusively because of lack of test equipment and spare parts. With installation of a prime safety single channel bridge-to-bridge unit, plus the redundant ability of the multi-channel unit, the probability of no system in operation is reduced to approximately 6%. With the addition of proper tools and spare parts, the chance of a vessel having an inoperative safety channel should easily be reduced to less than 1%, which compares very favorably to any other system on the vessel.

I urge the Committee to consider these points and incorporate them into the pending legislation. Thank you for allowing me to make this submission.

Respectfully,

R. C. SMITH,
Columbia University Graduate School of Business.

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