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COAST GUARD MISCELLANEOUS—Part 1

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GOVERNMENT DOCUMENTS

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HEARINGS

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BEFORE THE

SUBCOMMITTEE ON
COAST GUARD AND NAVIGATION

OF THE

COMMITTEE ON
MERCHANT MARINE AND FISHERIES
HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

FIRST SESSION

ON

COAST GUARD AUTHORIZATION AND OVERSIGHT; 1980—H.R. 2295
FEBRUARY 28, 1979

CUYAHOGA SINKING
MARCH 6, 1979

LINES OF DEMARCATION—H.R. 1198
JUNE 5, 1979

VESSEL DOCUMENTATION (H.R. 1196)
TONNAGE MEASUREMENT (H.R. 1197)
JUNE 20, 1979

ICEBREAKER PROGRAMS OVERSIGHT
JUNE 28, 1979

Serial No. 96-6

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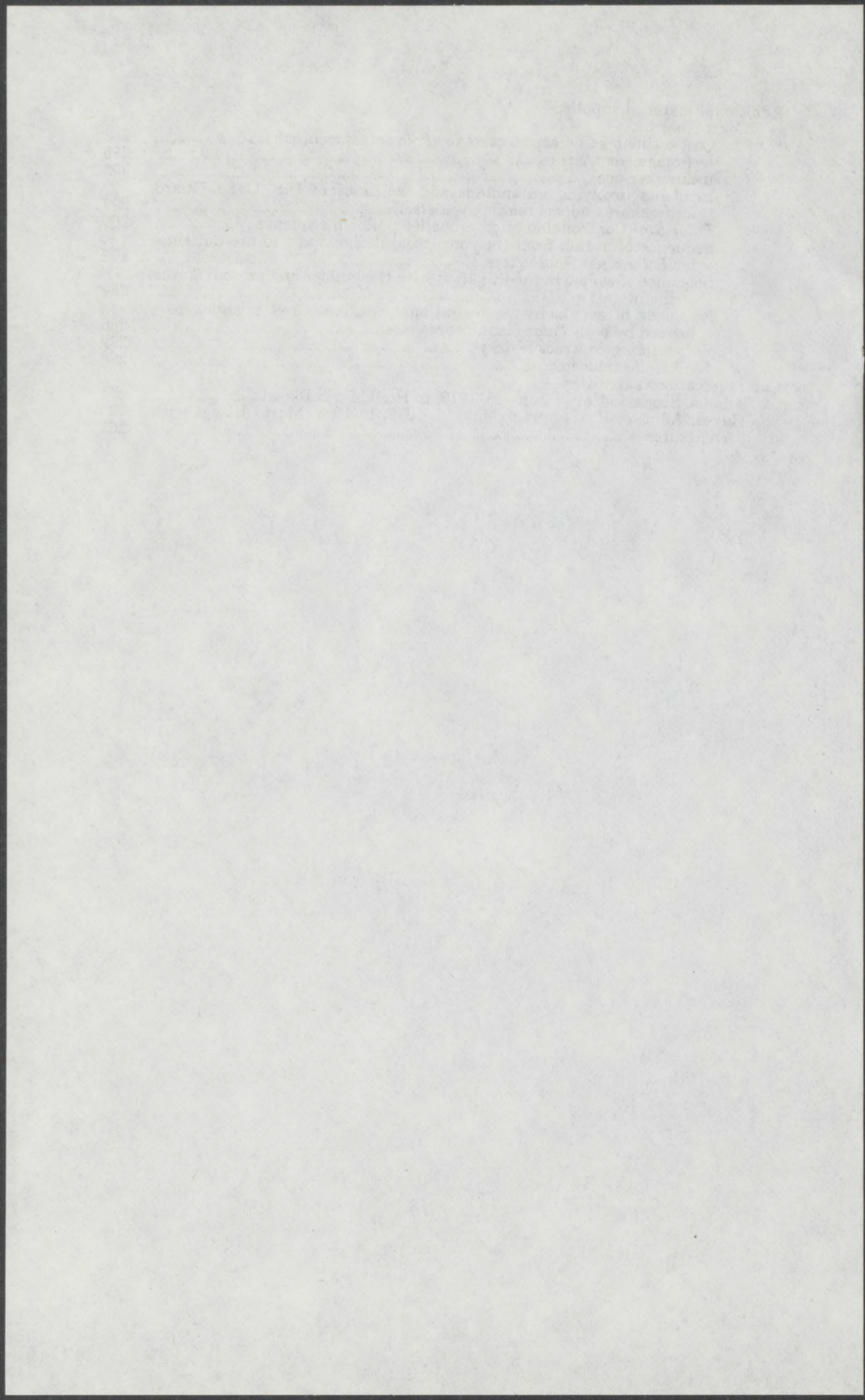
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COAST GUARD AUTHORIZATION AND OVERSIGHT—FISCAL YEAR 1980

WEDNESDAY, FEBRUARY 28, 1979

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 1:40 p.m., in room 2261, Rayburn House Office Building, Hon. Mario Biaggi, chairman of the subcommittee, presiding.

Present: Representatives Biaggi, Studds, Myers, Oberstar, Hughes, and Mikulski.

Staff Present: Ricardo A. Ratti, chief counsel, Rudy Cassani, counsel, Cyndy Wilkinson, clerk, and Kai David Midboe, minority counsel.

Mr. BIAGGI. The meeting is called to order.

Today, the Subcommittee on Coast Guard and Navigation is meeting to commence its consideration of a bill to authorize appropriations for the Coast Guard for fiscal year 1980.

The administration has transmitted its proposal to Congress; however, it contains an authorization request for 2 fiscal years. Since neither the subcommittee nor, I suspect, the Coast Guard is prepared to justify funding requests for fiscal year 1981 at this time, we will only concern ourselves with authorizations for fiscal year 1980.

Therefore, included in each member's folder is a copy of H.R. 2295—a bill based on estimated requirements for fiscal year 1980—which we will consider at today's hearing.

Also included in each folder is a section-by-section analysis of the bill—budget comparisons for fiscal years 1978, 1979, and 1980 for Operating Expenses; Acquisitions, Construction, and Improvement programs; Research, Development, Test, and Evaluation projects; and for the Alteration of Bridges—and a brief informative outline on the vessel and aircraft replacement program.

In examining the President's budget request for 1980 as it relates to Coast Guard functions and responsibilities, I must concur with his description of it as an austere budget. For the Coast Guard, the request is for a 5½-percent increase over last year's appropriation. Considering the inflation rate that we are experiencing there is a serious question as to whether the proposed budget is sufficient to enable the Coast Guard to provide an adequate level of services to the public.

I also note that the budget provides little in the way of funding for new programs. It provides even less for increases in existing programs to alleviate excessive working hours—to increase readi-

ness requirements—and toward reducing some longstanding backlogs—all related to service to the public.

We will be interested in hearing comments on these observations and on other issues related to the operations of the Coast Guard. I expect that a number of questions will be raised concerning some areas which appear to have been neglected or inadequately provided for in the administration's budget request.

An important area of concern is Outer Continental Shelf safety. Enactment of the Outer Continental Shelf Lands Act Amendments of 1978 continues a trend initiated in 1970 with the National Environmental Policy Act. This congressional initiative directly resulted from the Santa Barbara Oil spill of 1969. The shock wave generated by that spill spawned a growing public awareness of the environmental risks posed by OCS oil and gas operations—culminating in congressional approval of more stringent regulation of offshore development.

The Coast Guard is the primary agency responsible for carrying out this safety mandate. To properly fulfill its responsibilities, the Coast Guard will have to expedite existing marine inspection programs covering vessels and facilities operating on the OCS and continue the development of a comprehensive occupational safety and health program for OCS workers. This effort will tax Coast Guard resources and may impact other Coast Guard programs.

Parallel responsibility to insure adequate personnel and equipment to implement this expanded mission requirement has traditionally fallen upon the authorizing committee. We will ask the Coast Guard today what additional resources are needed to implement an adequate OCS marine safety program.

Subcommittee hearings held last summer highlighted the need for improved intelligence coordination between the Coast Guard and other Federal law enforcement agencies in support of maritime drug interdiction. Testimony at those hearings indicated that even modest increases in Coast Guard intelligence capability could significantly increase operational effectiveness.

Last year's authorization hearings revealed a critical shortfall in the Coast Guard's research and development program. The subcommittee approved a \$5 million increase in this budget category. Unfortunately, due to the availability of unexpended funds from prior years, the Appropriations Committee did not provide additional resources for this program.

Since the carryover of unexpended funds from prior years has now been virtually eliminated, I believe a renewed effort to expand Coast Guard R. & D. efforts is warranted.

Even an austere budget must make some provision for the future. We cannot predict with any degree of certainty what additional responsibilities will fall upon the Coast Guard by virtue of increased ocean-based activities. Given the already impressive record of Coast Guard R. & D. performance in only its first decade of effort, a modest infusion of funds into this program should reap significant future benefits.

Another area of personal concern to me is the need to provide housing for Coast Guard personnel and dependents in areas where living accommodations are scarce and inadequate. The administration's request provides for 58 units this year. Since adequate hous-

ing has an important impact on the morale and efficiency of Coast Guard personnel, I believe the subcommittee should inquire into whether we are doing enough in this area.

During the last Congress, the subcommittee held extensive oversight and legislative hearings on the Coast Guard's capability for enforcement of the Maritime Safety laws—treaty obligations—port safety laws—and various marine environmental protection requirements. We have also had the benefit of various General Accounting Office studies on a number of Coast Guard programs.

With the benefit of this greater insight into the many responsibilities and problems of the Coast Guard, I would expect that a number of other budgetary issues will come under critical review by the subcommittee this year.

[The bill and Executive Communication No. 759 follow:]

96TH CONGRESS
1ST SESSION

H. R. 2295

To authorize appropriations for the Coast Guard for fiscal year 1980.

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 21, 1979

Mr. BIAGGI (for himself and Mr. TREEN) introduced the following bill; which was referred to the Committee on Merchant Marine and Fisheries

A BILL

To authorize appropriations for the Coast Guard for fiscal year 1980.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That funds are hereby authorized to be appropriated for nec-
4 essary expenses of the Coast Guard for fiscal year 1980, as
5 follows:

6 (1) for the operation and maintenance of the
7 Coast Guard, including expenses related to the Cape-
8 hart housing debt reduction: \$1,037,175,000;

I—E

1 (2) for the acquisition, construction, rebuilding,
2 and improvement of aids to navigation, shore facilities,
3 vessels, and aircraft, including equipment related there-
4 to: \$284,361,000, to remain available until expended;

5 (3) for the alteration or removal of bridges over
6 navigable waters of the United States, constituting ob-
7 structions to navigation: \$14,900,000, to remain avail-
8 able until expended; and

9 (4) for research, development, test, and evalua-
10 tion: \$21,825,000, to remain available until expended.

11 SEC. 2. For fiscal year 1980, the Coast Guard is au-
12 thorized an end of year strength for active duty personnel of
13 39,027: *Provided*, That the ceiling shall not include members
14 of the Ready Reserve called to active duty under the authori-
15 ty of section 764 of title 14, United States Code.

16 SEC. 3. For fiscal year 1980, average military training
17 student loads for the Coast Guard are authorized as follows:

18 (1) recruit and special training: 4,125 students;

19 (2) flight training: 125 students;

20 (3) professional training in military and civilian in-
21 stitutions: 425 students; and

22 (4) officer acquisitions: 1,000 students.

[EXECUTIVE COMMUNICATION No. 759]

THE SECRETARY OF TRANSPORTATION,
Washington, D.C., February 27, 1979.Hon. THOMAS P. O'NEILL, Jr.,
Speaker of the House of Representatives,
Washington, D.C.

DEAR MR. SPEAKER: This letter transmits proposed legislation, "To authorize appropriations for the Coast Guard for fiscal years 1980 and 1981 and for other purposes".

The proposed bill contains the Coast Guard's request for authorization of appropriations, personnel strengths, and "student loads" for fiscal years 1980 and 1981 (Sections 1-3). It increases the ceiling on commissioned officers in the Coast Guard (Section 4). The proposed bill also extends, and makes uniform, the Coast Guard's authority to set and collect fees for the overseas inspection of all merchant vessels (Section 5). Finally, the proposed bill raises the statutory limitation on the Coast Guard's last civilian lighthouse keeper's salary to \$15,000 (Section 6).

In compliance with the Congressional Budget and Impoundment Control Act of 1974 (Public Law 93-344), a request for authorization of appropriations for fiscal year 1980 was submitted to Congress in 1978, as part of a legislative proposal which also requested authorization of appropriations for fiscal year 1979. When the fiscal year 1979 authorization bill was introduced and eventually enacted, there were no references to the 1980 fiscal year requests. Since the fiscal year 1980 request has not been acted upon, we are resubmitting it as part of the attached legislative proposal.

Sections 1 through 3 of the legislative proposal are responsive to Section 5 of Public Law 94-406 which requires authorization before funds may be appropriated to or for the use of the Coast Guard for operational expenditures, capital acquisition and construction, bridge alterations, and research and development. For reasons of simplicity, individual items within each of the above categories have not been listed. However, the appropriate committees will be furnished detailed information identifying each item for which authorization of appropriations is requested. Furthermore, the Department will be prepared to supply any other information requested by the Congress.

Sections 1 through 3 of the bill also respond to Subsection 6(a) and 6(b) of Public Law 94-406 which require authorization of the Coast Guard's "end strength" and "average military training load" respectively.

Section 4 of the proposed bill amends Public Law 30-385 (14 USC 42(a)) by increasing the ceiling on commissioned officers in the Coast Guard from 5,000 to 6,000. The last increase in the officer ceiling was in 1968, and was thought to be sufficient for 5 years. Since then, as a result of legislation such as the Ports and Waterways Safety Act, the Federal Water Pollution Control Act, and the Fisheries Conservation and Management Act, the Coast Guard has been required to assume numerous new regulatory and enforcement responsibilities. Presently, there are over 4,900 officer billets authorized. To fully staff this number of billets the Coast Guard would be forced to exceed the 5,000 officer ceiling during the period between the commissioning of new officers in the spring and the retirement of some senior officers in the summer. Raising the ceiling to 6,000 would give the Coast Guard sufficient flexibility to continue to properly manage its programs. The proposal would not in itself actually increase the number of officers on active duty but would only authorize increases in the number of officers as program and personnel strength increases are authorized. There is no cost associated directly with this section.

Section 5 of the proposed bill will align both tank vessel and non-tank vessel inspection programs and provide flexibility in managing them. It authorizes the prescription of reasonable fees for the overseas inspection of all categories of merchant vessels not covered by the Port and Tanker Safety Act of 1978. Such fees would be collected by the Coast Guard (not the Treasury Department) as part of the inspection process.

Section 6 of the proposed bill would amend subsection 432(g) of title 14, United States Code, by raising the statutory limitation of \$7,500 on the annual pay of lighthouse keepers to \$15,000. It further proposes paying the Coast Guard's only remaining, full time, civilian keeper, at Coney Island Light, back pay of about \$2,900, which represents the difference between what the keeper actually received after his salary reached the statutory ceiling in 1974 and what he would have received under the General Schedule salary rates had there been no such limitation. When he retires, there will be no need to maintain this special pay schedule for keepers. Equity dictates this request. This individual has over 40 years of continuous service and cannot, by law, be replaced by hiring another civilian. He is

presently eligible for retirement, although he has indicated his intention to remain until age 70. Because his retirement annuity will be based on the highest three consecutive years of earnings, this individual's retirement pay will be adversely affected unless legislative relief is granted.

It would be appreciated if you would lay this proposal before the House of Representatives. A similar proposal has been submitted to the President of the Senate.

The Office of Management and Budget has advised that enactment of this proposed legislation is in accord with the President's program.

Sincerely,

BROCK ADAMS.

Enclosure, draft bill.

A BILL

To authorize appropriations for the Coast Guard for fiscal years 1980 and 1981 and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums are authorized to be appropriated for the United States Coast Guard for the fiscal years 1980 and 1981:

- (1) For necessary expenses for the operation and maintenance of the Coast Guard including those relating to the Capehart housing debt reduction -
for fiscal year 1980 - \$1,037,175,000 and such additional sums as may be necessary to meet unforeseen circumstances.
for fiscal year 1981 - such sums as may be necessary.
- (2) For acquisition, construction, rebuilding, and improvement of aids to navigation, shore and off-shore establishments, vessels, aircraft, and pollution abatement including equipment and necessary administrative expenses relating thereto:

AIRCRAFT

for fiscal year 1980 - \$90,955,000

for fiscal year 1981 - such sums as may be necessary.

VESSELS

for fiscal year 1980 - \$134,272,000

for fiscal year 1981 - such sums as may be
necessary.

SHORE AND OFF-SHORE ESTABLISHMENTS, AIDS TO
NAVIGATION, POLLUTION ABATEMENT, ADMINISTRATIVE
EXPENSES

for fiscal year 1980 - \$59,134,000

for fiscal year 1981 - such sums as may be
necessary.

- (3) For alteration or removal of railroad and highway
bridges in order to eliminate obstructions to
navigation in the navigable waters of the United
States:

for fiscal year 1980 - \$14,900,000

for fiscal year 1981 - such sums as may be
necessary.

- (4) For necessary expenses for basic and applied
scientific research, development, testing, or
evaluation of programs and activities of the Coast
Guard:

for fiscal year 1980 - \$21,825,000

for fiscal year 1981 - such sums as may be
necessary.

Sec. 2. The Coast Guard is authorized an end strength for active duty personnel of 39,027 for fiscal year 1980; except that the ceiling shall not include members of the ready reserve called to active duty under the authority of section 764 of title 14, United States Code.

Sec. 3. Average military training student loads for the Coast Guard are authorized as follows:

- (1) Recruit and special training: Students = Student
years

for fiscal year 1980 - 3,940 students

- (2) Flight training:

for fiscal year 1980 - 110 students

- (3) Professional training in military and civilian
institutions:

for fiscal year 1980 - 438 students

- (4) Officer acquisition:

for fiscal year 1980 - 940 students

Sec. 4. Subsection 42(a) of title 14 United States Code, is amended to read as follows:

"(a) The total number of commissioned officers, excluding commissioned warrant officers, on active duty in the Coast Guard shall not exceed 6,000."

Sec. 5. For the recovery of overseas vessel inspection costs from merchant vessel categories not covered by the Port and Tanker Safety Act of 1978 (P.L. 95-474) and notwithstanding the provisions of section 1 of the Act of June 19, 1886, as amended (46 USC 331), the Secretary of the Department in which the Coast Guard is operating may prescribe by regulation reasonable fees for an inspection or examination conducted outside the geographic limits of the United States. The owner or operator of a vessel so inspected or examined is liable for these fees. Fees received shall be credited to the general fund of the Treasury.

Section 6

(a) Subsection 432(g) of title 14, United States Code, is amended by striking out "\$7,500" in the fourth sentence and inserting "\$15,000" in its place so that, in pertinent part, it reads as follows:

". . . .In no case shall basic compensation exceed \$15,000 per annum. . . ."

(b) The Coast Guard may issue retroactive pay to its remaining civilian lighthouse keeper in an amount equal to the difference between what the keeper actually received and what he would have received under the General Schedule salary rates had there not been a statutory limitation of \$7500 on his annual salary. This amount is to be calculated from the time at which his salary reached the statutory limitation to the date of enactment of this act.

SECTION-BY-SECTION ANALYSIS OF A BILL

"To authorize appropriations for the Coast Guard for fiscal years 1980 and 1981 and for other purposes".

SECTION 1

This section authorizes \$1,037,175,000 for fiscal year 1980 Coast Guard operating expenses and includes an authorization for additional money to meet unforeseen circumstances in order to preclude the need for a supplemental authorization bill. This section also includes authorization for acquisition, construction, and rebuilding of: aircraft (fiscal year 1980—\$90,995,000); vessels (fiscal year 1980—\$134,272,000); shore and off-shore establishments, aids to navigation, pollution abatement, and administrative expenses (fiscal year 1980—\$59,134,000); and removal or alteration of bridges (fiscal year 1980—\$14,900,000). Finally, there is included authorization for research and development (fiscal year 1980—\$21,825,000). The section also authorizes "such sums as may be necessary" for fiscal year 1981 in the above categories.

SECTION 2

This section authorizes an active duty personnel level of 39,027 for fiscal year 1980. This is a reduction of 304 persons from the level authorized by Congress for fiscal year 1979.

SECTION 3

This section authorizes the student year levels for recruit training (fiscal year 1980—3,940); flight training (fiscal year 1980—110); professional training (fiscal year 1980—438); and officer acquisition (fiscal year 1980—940). This represents a slight reduction in students from the authorization for fiscal year 1979 for recruit training and officer acquisition, an increase of two for professional training, and an increase of 15 from fiscal year 1979 for flight training connected with the introduction of the Coast Guard's new Medium Range Surveillance Aircraft in fiscal year 1980 and an increase in its Fixed Wing Navigational Training Program.

SECTION 4

This section amends Public Law 30-385 (14 USC 42 (a)) by increasing the ceiling on commissioned officers in the Coast Guard from 5,000 to 6,000. The last increase in the officer ceiling was in 1968.

Since then, as a result of major national policy-setting legislation such as the Ports and Waterways Safety Act, the Federal Water Pollution Control Act, and the Fisheries Conservation and Management Act, the Coast Guard has been required to assume numerous new regulatory, law enforcement and water pollution avoidance responsibilities. Presently, there are over 4,900 officer billets authorized. To fully staff this number of billets the Coast Guard would be forced to exceed the 5,000 officer ceiling during the period between the commissioning of new officers in the spring and the retirement of some senior officers in the summer. Raising the ceiling to 6,000 would give the Coast Guard sufficient flexibility to continue to properly manage its programs. The proposal would not increase the number of officers on active duty but would only authorize increases in the number of officers as specific program and personnel strength increases are authorized. There is no cost associated directly with this section.

SECTION 5

This section will align both tank vessel and non-tank vessel inspection programs and provide flexibility in managing them. It authorizes the Coast Guard to prescribe reasonable fees for the overseas inspection of all categories of merchant vessels not covered by the Port and Tanker Safety Act of 1978. This section should aid the Coast Guard in being responsive to the needs of vessel safety and the protection of the marine environment.

SECTION 6

This section would amend subsection 432 (g) of title 14, United States Code by raising the statutory limitation of \$7,500 on the annual pay of lighthouse keepers to \$15,000. If further proposes paying the Coast Guard's only remaining full time civilian keeper, at Coney Island Light, backpay of about \$2,900 which represents the difference between what the keeper actually received after his salary reached the statutory ceiling in 1974 and what he would have received under the General Schedule salary rates had there been no such limitation. When he retires, there will be no need to maintain the special pay schedule for keepers. This individual has over 40 years of continuous service and cannot, by law, be replaced by hiring another civilian. He is presently eligible for retirement, although he has indicated his intension to remain until age 70. Because his retirement annuity will be based on the highest three consecutive years of earnings, this individual's retirement pay will be adversely affected unless legislative relief is granted.

Mr. BIAGGI. I would now like to call Adm. John B. Hayes, Commandant, U.S. Coast Guard as our first witness. He is accompanied by Vice Adm. Robert Scarborough and other members of his staff.

But before you testify, Admiral, we would like to take this opportunity to welcome you. This is your first visit before the Coast Guard Subcommittee, and we hope that it will be the first in a series, and we have had the pleasure of talking to you about our activities, our concerns, and we share them, and I wonder if you would, for the benefit of this committee and the record, as the new Commandant of the Coast Guard, outline your objectives and goals of your administration?

STATEMENT OF ADM. JOHN B. HAYES, COMMANDANT, U.S. COAST GUARD, ACCOMPANIED BY VICE ADM. ROBERT H. SCARBOROUGH, VICE COMMANDANT, U.S. COAST GUARD; REAR ADM. JAMES P. STEWART, CHIEF OF STAFF, U.S. COAST GUARD; CAPTAIN ROBBINS, CHIEF OF THE PROGRAMS DIVISION; AND CAPTAIN LARSON, CHIEF OF THE BUDGET DIVISION

Admiral HAYES. Thank you very much, Mr. Chairman.

Would you like me first to briefly summarize our statement? I have already submitted it for the record, and if you prefer, I can just leave it at that.

Mr. BIAGGI. Only if you do not have any sleepers in your statement?

Admiral HAYES. I have no sleepers in my abbreviated statement, no, sir.

Mr. BIAGGI. Your abbreviated statement. How about the full statement?

Admiral HAYES. I am not sure that I do, Mr. Chairman. I think really, seriously, there are none.

Mr. BIAGGI. Without objection, your statement will be printed in the record in its entirety, and you may proceed to summarize it.

[The following was received:]

DEPARTMENT OF TRANSPORTATION, U.S. COAST GUARD, INTRODUCTORY STATEMENT OF ADM. JOHN B. HAYES, FOR PRESENTATION TO HOUSE OF REPRESENTATIVES SUBCOMMITTEE ON COAST GUARD AND NAVIGATION COMMITTEE ON MERCHANT MARINE AND FISHERIES

Mr. Chairman and members of the committee, I have with me at the table this morning the Vice Commandant, Vice Admiral Scarborough; my Chief of Staff, Rear Admiral Stewart; the Chief of Programs Division, Captain Robbins, and the Chief of Budget Division, Captain Larson.

I am pleased to have this opportunity to present the Coast Guard's fiscal year 1980 budget request. I think you will find that this request is in keeping with the national desire to limit the growth of Government spending. It is aimed at meeting our most important responsibilities without contributing to inflation. In the area of personnel strength in particular we have attempted to hold the line and have offset all new personnel requirements by reductions in ongoing programs.

In order to provide for proper management of the corps of commissioned officers, it is necessary, however, to increase the ceiling from the current limit of 5,000. Since this total was established in 1968, legislation has tasked the Coast Guard to assume numerous new regulatory and enforcement responsibilities. Presently there are over 4,900 officer billets authorized. To fully staff this number of billets requires a number temporarily on hand in excess of 5,000 during the period between the commissioning of new officers in the spring and retirements in the summer. Raising the ceiling to 6,000 would permit adequate flexibility to manage our officer personnel. The proposal would not in itself increase the number of officers on active duty but would permit increases as higher program strength levels are authorized. There are no costs directly associated with this request.

The authorization legislation provides for the alignment of both tank and nontank vessel inspection programs and provides flexibility in managing them. The assignment of reasonable fees for overseas inspection of all categories of merchant vessels not covered by the Port and Tanker Safety Act of 1978 is proposed. This proposal should aid the Coast Guard in being responsive to the safety needs of our merchant marine fleet and in the protection of the marine environment.

Also requested is an increase in the statutory limitation of \$7,500 on the annual pay of lighthouse keepers to \$15,000 and our proposal to pay the only remaining, full time, civilian keeper at Coney Island Light, back pay of about \$2,900—the difference between what the keeper actually received after his salary reached the statutory ceiling in 1974 and what he would have received under the General Schedule salary rates had there been no such limitation. Equity requires favorable consideration of this request. The individual, though eligible for retirement, intends to work through age 70. Since his retired pay is based on the highest three consecutive years of earnings, this individual's annuity will be adversely affected unless legislative relief is granted.

The following details highlight our budget request. In our operating expenses appropriation we are asking for a total of \$1,037 million—the bulk of which, of course, provides for continuation of ongoing operations and only \$17 million represents increases in program activity (less than 2 percent above fiscal year 1979). Our use of personnel in this appropriation is of particular note. In order to provide personnel to meet new responsibilities and operate new or expanded facilities which have been provided in previous years, I have elected to draw down on personnel now assigned at operating Coast Guard units. The bulk of these resources will be made available by reducing our traditional 24 hour standby capability for immediate search and rescue responses in several locations where historical data indicates a lesser degree of readiness would achieve acceptable results.

Our acquisition construction and improvements appropriation request, as in the past few years, is heavily weighted toward hardware. The purchase of three medium endurance cutters in this budget is the next increment in our program to enable our fleet to meet its commitments. The budget also contains requests which would allow us to continue both the HU16-E aircraft (MRS) and HH52-A helicopter (SRR) replacement procurements.

These three major hardware buys represent about 66 percent or our total AC & I request. It gives you an idea of how important I consider these projects.

Mr. Chairman, most of the remainder of our AC & I appropriation generally concentrates on renovating and replacing existing shore facilities and improvement of our oil containment and recovery capability in high risk areas. These latter projects will help support the president's initiative on oil pollution and further our capability to meet the requirements of the Federal Water Pollution Control Act.

We are also continuing the replacement program of outdated tube-type transmitters at loran-C stations with new solid state transmitters which are both energy efficient and reliable. Finally, several projects have been included in this appropri-

ation which are aimed at improving training facilities to cope with the changing needs of the service.

While I'm on the subject of training I am pleased to announce that the first class in our new boatswain's mate school located at our Reserve Training Center in Yorktown, Virginia, will convene in April, this year, also, we are gearing up for full scale operation and plan on graduating 300 personnel each year.

I cannot stress enough my commitment to a solid training base for the Coast Guard. Training is vitally important at all times but may recent travels throughout the Coast Guard have convinced me that we are not keeping abreast of the need for increased professionalism caused by the growing complexities of our society. The myriad of new programs that the Coast Guard has assumed in recent years has stretched our limited resources—especially our personnel—to the limit. Recently we have experienced a reduction in our retention rate of enlisted personnel whose initial enlistment is expiring from 26 to 16 percent. Add to that, today's difficulties in recruiting and our training problem is magnified. I feel we must increase our efforts in this area.

Our research and development appropriation is basically a follow-on to prior years. The slightly less than \$22 million we are requesting will continue to place a heavy emphasis on marine environmental protection, most notably in the integration of our airborne sensor package for the medium range search aircraft—Aireye. I think its worthy to note that, although research will continue on individual sensors in the future, fiscal year 1980 will mark the completion of the R & D effort for Aireye. We expect the contract integrating the basic Aireye components will be awarded in fiscal year 1980 bringing to a close one of the most ambitious projects we have undertaken in the field of R & D. However, the completion in R & D is but a single chapter in what will be a mild revolution in the way the Coast Guard conducts its operations.

Mr. Chairman, I would like to point out the addition of a new appropriation in our request. I refer, of course, to the New Outer Continental Shelf Lands Act fund which responds to enactment of Public Law 95-372, the Outer Continental Shelf Lands Act Amendments of 1978. Once again, the personnel required to manage this fund, which will provide compensation for damages resulting from oil spills, will be provided by reprogramming from other areas within the Coast Guard. Although we have managed special purpose funds for many years, the addition of this fund and the probable passage of the more comprehensive "superfund" clearly projects the Coast Guard into a new arena of responsibility. I am certain that, as in our traditional programs, Coast Guard personnel will quickly establish a standard of excellence in these new areas.

Mr. Chairman, before closing I would like to share with you the impressions that I have gained as a result of my travels around the Coast Guard since becoming commandant. I have been highly impressed by what I have seen of the men and women in the Coast Guard. They continue to be enthusiastic and dedicated. It is these very attributes that have allowed them to respond to the new missions and steady expansion in our historic responsibilities. I do feel, however, that the service is as lean as it can possibly be. We have been stretched to the limit. Our recruiting, retention and training problems must be addressed, as I mentioned earlier, in order to maintain the level of professionalism that the American public has come to expect of the Coast Guard.

I would be less than candid if I didn't also mention my particular concern with the condition of the Coast Guard fleet. It needs attention. We are running our ships harder than we've ever had to and its taking its toll. This is a problem on which we are currently focusing a good deal of attention.

I have only touched upon a few of the areas that were noted during my visits throughout the Coast Guard. Recently I gave an address on the overall "State of the Coast Guard" and I would be pleased to provide this separately for your consideration.

I appreciate the support that you and your committee have provided the Coast Guard in the past and I promise to do my part to ensure that our fine working relationship continues during my assignment as commandant. Thank you, Mr. Chairman.

STATE OF THE COAST GUARD, JANUARY 16, 1979, ADM. JOHN B. HAYES

That's about the shortest introduction I have had in a long while. I thank you very much. Admiral Stewart, Master Chief Stephens, national auxiliary Commodore Doc Horton and his able Vice Aime Bernard, representatives from the office of the Secretary, those retired flag officers who are not identified because we weren't quite sure who they all were, other retired personnel, members of our Coast Guard

auxiliary and Coast Guard reserve, and most particularly the military and civilian men and women of the Coast Guard. If you are here with the idea in mind that you will hear a dissertation on the roles and missions of the Coast Guard, I suggest perhaps the time is right for you to leave. On the other hand, if you are here to listen to me give as frank an appraisal as I can of where we are and how we got there, what winds I see blowing at the present time, and perhaps develop for you where I think the Coast Guard should be going over the next several years, then you are in the right place.

First of all I look upon today's Coast Guard as a highly professional organization with its own justifiably earned self pride. Active duty men and women, military and civilian comprise that Coast Guard along with our Coast Guard auxiliary and our Coast Guard reserve. For indeed without that combination in our "one Coast Guard" approach, it's my judgment that we could in no manner perform the tasks that are required of us today. I think we are a lean organization—perhaps as lean as I have seen us in my career. However, we are still reasonably healthy, but with some problems. Perhaps the greatest of which is the retention of our highly professional personnel.

The 19th century French journalist/philosopher Alexis De Tocqueville said a good many decades ago that "America is a land of wonders, in which everything is in constant motion, and every change seems an improvement—no natural boundary seems to be set to the efforts of man; and in his eyes what is not yet done is only that he has not yet attempted to do." I am not sure that isn't also a fairly good description of the Coast Guard as I see it today. We have a reputation as "doers"—and the things that we do are founded upon Christian/Judaic principles, our constitution certainly, and our ability to elevate concern for others over personal need. Certainly these are the driving forces behind our success and I hope it will always remain that way.

Over the last eight to ten years the Coast Guard has been tasked by the Congress in a variety of ways, both in some new mission areas and some traditional ones. I am not going to go through the entire list, but it's rather imposing. Some ten to twelve pieces of legislation in the past eight to ten years have said to the Coast Guard—we want you to become more involved in this particular traditional mission area, or we want you to undertake this new but related maritime program. The Fisheries Conservation and Management Act, Ports and Waterways Safety Act, National Environmental Policy Act and Federal Water Pollution Control Act, Port and Tanker Safety Act, and a whole variety of others have indeed substantially increased our responsibilities. However, its rather interesting to note, that same period of time was essentially a zero personnel growth period for our service. It was during this period that we stood down from Vietnam, where we had some 1,500 officers and men. Also we terminated our ocean station mission, which was no longer required. Those two events resulted in the loss of 18 of our major cutters. The personnel resources from both these areas were reprogrammed for the most part into these new and essentially regulatory tasks. I think we have reasonably and effectively navigated those changing winds. Part of the reason we have been able to do so is associated with the inherent flexibility of our multi-mission character, and what I like to describe as the glue that underlies and holds our organization together. The elements of that glue are—first, our military character. Have we arrived at a point in time when we should reconsider retaining that military character? My response to that is emphatically, no!—and I will dwell on that a bit more later. While our military character is more direct and obvious, the second element of that glue is something perhaps a little more subtle, yet maybe even more important, and that is the philosophical basis for the Coast Guard's existence—it's humanitarian roles. Underlying all that we do is the fact that we operate and perform our various tasks and missions in the maritime environment and therefore share a strong maritime perspective with our clientele. The other major factor in meeting our responsibilities during these dynamic times has been the reserve augmentation program and the rapid build-up of our Coast Guard auxiliary—they have been major inputs to coast guard mission performance. Without these two organizations today, and the way in which we are using them, I do not believe that we could accomplish those things the Congress has told us to do.

This scenario has not been without some residual effects. We continue to see almost perpetual reprogramming as priorities change. The aviation side of the Coast Guard is perhaps the healthiest part of our service at the present time. While that's said in recognition of what has been accomplished in Coast Guard aviation over recent years, it is not said in criticism of other areas, but rather to emphasize something I think we all should understand. That is, although our aircraft are for the most part in excellent material condition, our ships are not up to my standards in a good many areas. As most of you probably know, I have spent the last 7 months

travelling about the Coast Guard. As far as I am concerned a great deal more needs to be done to improve the on board living conditions, material condition and the appearance of our ships. The heavy level of operations is clearly a part of the cause of this situation. Our shore plant has not necessarily been neglected, but it is certainly in need of a great deal of work to make our stations habitable for our people, particularly our bachelors. Finally I think our support programs have been degraded because of the emphasis on operations. Well that's kind of the scenario of how I see the Coast Guard at this moment in time.

Now, what winds are blowing that are going to affect the future. First of all, and clearly—inflation and a tight budget. There is absolutely no question in my mind that, like it or not, we are going to have to look in every nook and cranny of the Coast Guard for management improvement—for ways in which we can do our job with no more people than we have right now, at least for the next couple of years. I'd like to be more optimistic than that, but I see no relief with the President attempting to balance the budget and reduce Federal expenditures. I want to add at this point that I think we should support that effort and view it in a positive rather than a negative way.

Most certainly there is an increasingly global challenge on the uses of the sea. When you look at the offshore environment around our Nation today, you can identify about 12 different uses that are either already taking place or certainly will in the near future—fisheries, transportation, commerce, scientific research, national defense, aquaculture, sanctuaries, oil and gas exploration and development, just to name a few—and I could go on with quite a number of others. The point is—that band of sea is no longer there just for the mariner, and the Coast Guard is going to be up to its ears in dealing with the conflicts associated with use of the coastal zone.

There have been challenges to our authority in recent years. For the first time in our history we have found ourselves at odds with the State governments, who are challenging our authority when they don't think we are doing our job well enough. State laws have challenged Federal authority. The Chevron and Arco cases tested, and ultimately affirmed, our authority to regulate tanker design and construction. Up until very recently we have only paid lip service to the increasing involvement of State and local government interests, and that must change! We also have had our boarding authority questioned—and the Piner Case now pending before a Federal Circuit Court leaves that issue still in doubt.

We have challenges to our organization. The Coast Guard has been described as a fat juicy plum ready to be plucked and relocated elsewhere as reorganization plans are developed and scrutinized. I expect most of you are aware that, for the better part of the last two years, the President has had a reorganization project going in the Office of Management and Budget. This has involved some 30 to 35 studies with about 30 people on each study—that's about a thousand people from the various agencies all looking at ways to reorganize Government. I like to describe three reasons for considering reorganization. The first is in the name of better efficiency and effectiveness, the second is to provide a particular program or policy much greater emphasis and the third is to get around somebody whom you either can't or are afraid to fire. I suggest to you that the latter is not a very good reason, that the first rarely if ever occurs, so the middle one is about the only legitimate reason to reorganize. It is my judgment, that at least for the present, the Coast Guard is not directly involved in consideration for reorganizing to meet national ocean policy objectives. I say that because of the direction I have seen the executive branch going in these last several months and as a result of discussions among Government leaders. That's not to say the question will not be brought up time and again. It's obvious that there continues to be interest in the Congress for better application and development of ocean policy, and quite properly so. In itself I think that is certainly a most worthy cause, though I am not convinced that reorganization is the answer. In my judgment we need to develop and exercise more aggressive leadership among all the agencies involved. I might point out that we are doing it right now with respect to drug interdiction, and it's working extremely well—that is, each agency head, with his or her own responsibility, coordinating among themselves on an ad hoc basis. I feel this is the way to go in the ocean policy arena.

We obviously have an administrative drain and can expect more of it as more and more things are demanded of staffs. I would like to be able to stand here and tell you that I expect to reduce our headquarters staff by 25% within the next four years—and I am not at all sure that isn't where it should be! Regardless, I doubt whether we can make many inroads for obvious reasons. Instead of being required to do less and less in the name of efficiency and effectiveness, we will continue to be asked to do more and more. So, like it or not, I expect large staffs will continue to be the case. Incidentally, we are now being tasked by law to reduce the time that it

takes us to establish regulations; for example, one hundred and eighty days was prescribed in the recent Outer Continental Shelf Lands Act.

We are receiving increasing oversight by the Congress with respect to both our budget input and our outputs. That is—how well we are doing with the resources that the Congress provides. I forecast that will continue. There will be increasing pressure to reduce the impact of regulations on industry as much as possible.

The labor market will be lean—from doctors to seaman.

There will continue to be a growing spirit for, and need to have, international cooperation. We will become even more involved in international solutions to maritime problems.

The matter of women in the armed services has been determined by society. That decision has already been made and there is no longer any point in arguing it, philosophically or otherwise, as far as our service is concerned. I think the recent selection of two young women, on their own merit, to be commanding officers of WPB's demonstrates that we continue trying to make the Coast Guard an attractive career for both women and men.

Well, hopefully I have given you an idea of a few things that are going to affect us in the next several years. Then, where are we going—what do I see as the Coast Guard's principal goals and objectives. We do have some major concerns and we are going to shape the whole thrust and direction of our effort at our flag officers' conference in Washington next week. However, I still think I can chart for you at least some general directions.

As far as our future growth strategy is concerned, we must continue to mesh with national objectives, recognize the Coast Guard's unique capability for public service, and concentrate on quality not quantity. I would apply that, incidentally, to the Coast Guard auxiliary. With the increasing workload of recent years, our focus has naturally been on increasing quantity. Now we need to further fine-tune our collective professionalism. I hope to pursue aggressive leadership in all matters to do with ocean policy, and I expect that to extend to all of our people who are in positions of responsibility. I also see a need for us to aggressively exercise that kind of approach in the arena of maritime transportation affairs. Also in the policy area, I see the need to refine our comprehensive law enforcement policy to explore the international opportunities for cooperation. I predict that we will see more, rather than less, inter-governmental cooperation, communications, and indeed operations. You know, when you talk about the need for inter-agency cooperation, I have to hark back again to Tocqueville, remembering that he wrote in "Democracy in America": "I have never been more struck by the good sense and practical judgment of the Americans than in the manner in which they elude the numberless difficulties resulting from their Federal Constitution."

Indeed, I think our constitution is designed in a way which organizes our government to assure that there is conflict, and to assure that solutions to problems of any consequence are not very easy.

The area of Coast Guard identity is of concern to me. I know we have traditionally talked a great deal about "Coast Guard Image" and that sort of thing. I really don't like the expression "Coast Guard Image". To my mind that smacks too much of, shall we say, "blowing one's own horn". I would much rather approach this particular area with the idea that we need to provide a clear understanding of this thing called "Coast Guard," broadly, who we are and how we fit into the scheme of government. When you look at it, and begin to describe all of the things that we do, you find time and time again, even among our own people, that questions and exclamations of astonishment arise concerning what a complex organization we really are. So I hope we can develop a combination of aggressive external and internal programs. Externally, to describe this entity called "The Coast Guard", to get across the idea of our professionalism and to use our Coast Guard Reserve, Coast Guard Auxiliary, the Navy League, retired officers' associations and any other interested forum to get that message across. Internally, I think it is vital, partly for retention sake and partly because of our people, to keep them informed and to help them understand their professional identity. Finally in the way of identity I would comment that we are in the department of transportation. I touched upon organization a moment or two ago. In my judgment we are, at least under present organization in government, exactly where we belong. We can carry out our functions and perform our duties as well, if not better, in the department of transportation than any other that is currently on the scene. I therefore will make every effort to preserve our identity and our entity as a part of the department of transportation.

In the area of organization again, perhaps a few comments are in order about Coast Guard internal organization. I suppose you are all aware that we have had a study of headquarters organization going on for sometime now. My comment on it at this point, since we have not yet made decisions for implementation, will just be

that frankly it went beyond our expectations. I compliment Admiral Zumstein and all of those who both participated directly in its development and provided the necessary input. The purpose of that study was not to identify how we could completely reorganize Coast Guard Headquarters today or tomorrow or a month from now. The purpose was to look down the pike—to think about some of the things I have been describing to you and then, if we could start all over again, describe the ideal headquarter's organization, for today's and tomorrow's world. The idea was to establish a framework to accommodate opportunities as they present themselves—an objective to work towards in some kind of sensible fashion so we don't turn our headquarters, indeed the whole Coast Guard, upside down all at one time. I intend to have our flag officers briefed on this report next week, and then shortly thereafter brief the department and hopefully gain general approval for proceeding in an evolutionary fashion toward our objectives. As far as district functions and district organization are concerned, I see no major reasons to consider reorganization. It is interesting that every time one looks at that question it is easy to say:—well we can combine the first and the third, or the fifth and the seventh, the seventh and the eighth, or the second and the ninth districts; or perhaps even the eleventh and twelfth. It is also interesting that, as you begin to examine and look at it reasonably dispassionately, you don't necessarily end up with anything better or the need for fewer people. At any rate, I don't see major change in that area at least in the immediate future. However there is one area which does offer some opportunity for improvement. It is time to take all of the human resources projects and programs and put them together in a little more sensible fashion. Today, the commanding officer is faced with a command enlisted advisor, human resources officer, drug and alcohol counselor, civil rights officer, career counselor, and several other collaterally assigned, but similar functions. My feeling is that we have taken far too much of a scatter gun approach. For the time, these were probably reasonable solutions because of the way these various programs came into being. But I think now we can put them together into something that makes a little more sense. Our leadership school is just outstanding and an excellent focal point to begin to develop a coordinated program. After all, everything that we are talking about in each of those areas is a function and responsibility of leadership—and I hope that is where the major responsibility will continue to be.

I am very concerned about mission balance within the Coast Guard—where we have our people and what they are doing. I would describe the two aspects of the Coast Guard that I am referring to as: (1) those missions that provide expertise in the maritime arena, and (2) those missions that require maritime expertise—the later being essentially the regulatory tasks. We should not see ourselves as having a competition between these two groups of missions. The loss of those 18 high endurance weather patrol cutters very drastically reduced our base for maritime professionalism—our internal ability to generate seaman-like knowledge and expertise. So certainly I will be looking at all possible legitimate requirements to expand the Coast Guard's seagoing capability.

With respect to our military role. First, readiness! I think that our military readiness responsibility is one of the best bangs for the buck that the taxpayer gets. The Coast Guard's responsibilities for dealing with terrorism and sabotage of off-shore assets needs to be clarified and defined. It is time that we, along with all the other agencies that have responsibilities in that area, try to develop a reasonable plan to handle this situation. We must continue a strong reserve—first, in the context of what it is there for—to be a ready reserve when we have to go to call-up; and second, to augment the coast guard in peace time. It may well be that we need to put a little more emphasis on the readiness aspect of reserve training now that our reserve personnel are so well ensconced in augmentation of regular Coast Guard personnel in our day-to-day duties. I am not suggesting in any way that we deviate from those broad objectives. I simply point out that, as we have increased the augmentation, perhaps the other side of reserve training has not received as much attention as it should.

In the arena of general management, I suspect we will see continuing legislative reform and efforts to reduce manpower-intensive laws wherever possible. I hope that we can now start bringing together the various information processing capabilities that we currently have organizationally separate. I refer of course to communication, to data processing, to the use of word processing centers, and finally of course the expertise in the electronic engineering side of things that helps to put those pieces together. We have begun to take steps to do this and I think we are on the verge of seeing a major change in how we process information as individuals and as an organization. These will be major changes, not just a minor evolution. In the process of doing that I hope we can find ways, at long last, to do what we've all said we were going to do for years and never seem to manage to do—and that is to

reduce paper-work and reporting. Finally as a footnote to the arena of general management, I think we must foster innovation. As managers we must be prepared to be wrong. Therefore, I will certainly encourage people to make decisions and be innovative. If it doesn't work, we'll chalk it up as a bad decision and go on to solving the problem a different way.

In the arena of programs and facilities, I see no need to deviate from enhancing our multi-mission concept. However, we will be forced to develop better performance standards and better means to evaluate how well we have performed. It will be useful not only for our own management purposes, but also in providing information to support the needs of the Department, the Office of Management and Budget, and the Congress.

We need to examine a more meaningful readiness posture for our ships. I don't know whether you all are aware of this, but the Atlantic Area Commander informed me that over a recent 12 month period he had found that his ships were ready for operations only 75 percent of the scheduled operating time. We simply cannot afford that loss of capability. We are going to have to examine our standards and describe goals and objectives for a high level of operational readiness throughout the Coast Guard, and look at better ways to maintain our fleet. From an operational point of view, we most certainly will continue the "one Coast Guard" approach, which includes all those elements that I have already described.

In the regulatory area I think it is pretty obvious that we can no longer consider just the safety implications in our regulatory approach. Today and in the future we must look at our regulatory actions as a system problem, with many sub-systems affecting the decisions we will have to make. What do I mean by that? Simply this, that when we are looking at regulatory reform we must consider all interests in the regulatory action. The driving force behind the regulation may very well be safety—however we must also consider the impact of our proposed regulatory action on our environment, on the use of energy, on the economics involved—the cost to business and Government, and then arrive at a decision. Again I must emphasize, I don't think this will change in the near future—there will be increasing emphasis on exposing industry to fewer and simpler regulations. We have already seen, and will continue to see, increased State and local involvement in a variety of our mission areas. Rather than looking at that parochially and saying "stay away from our territory," we should welcome that kind of involvement. For example in my old district, Admiral Duin informed me that he and the National Marine Fisheries Service, the State of Alaska, and a couple of other agencies have finally gotten together with a common law enforcement agreement. As a result, the State of Alaska will continue to be a major element in enforcing fisheries laws in the 200 mile zone today, and in the economic zone tomorrow. We need this kind of partnership.

Any change in the role of research and development in the Coast Guard I think is going to be evolutionary. I don't foresee a major revolution in our approach. Most certainly it's going to evolve into fewer projects with more direct application to some of the major problems we will be facing tomorrow. I believe research and development should begin to play a role in future ship design and aircraft acquisition and perhaps even in the use of our shore facilities and boats.

As sort of a lead-in to my final comments, I have to observe that we need to make our shore plant responsive to the needs of our people. In my mind the most important area of concern, as we address the future, is our people. Our people are, and will remain, our most important asset. Without highly capable and professional people we can't do our job—regardless of the quality of our equipment and capital plant. One of our first objectives must be to reduce the losses that we are currently experiencing both at the end of our first enlistment and with subsequent re-enlistments. I believe that we can do this through a variety of actions—many of which have already been started. The need to provide the District Commander with as much flexibility in the handling of his people is extremely important. While there are compelling reasons to centralize certain functions of personnel management, I feel we have to give that Major Commander in the field as much flexibility as possible so that he can indeed manage his people more effectively. We must develop better counseling mechanisms to help our people—that's an area in which we have barely scratched the surface. In fact, Admiral Stewart and I were just talking about it at lunch today. Somehow, as we have become more and more technically oriented, we have forgotten what was a classic responsibility of the division officer in the past—and that was his people—counseling them about their career, counseling them with their family problems, and in general looking out for them on a personal basis. I am not sure we are doing that as much today as we should.

Training of our people is certainly receiving a great deal of attention, and not just because of the Cuyahoga incident—although that most certainly put a lot of empha-

sis on looking at how safely we conduct our entry level training. About last August as I recall, Admiral Stewart had already started some major studies to look at how we could improve our whole approach to Coast Guard training * * * sort of as a product of my observations in travelling about the Coast Guard. At the moment, at least, we have agreed that we can accomplish the needed changes through increased emphasis and resources, and don't need to reorganize to improve our training.

We must give more attention to the whole area of people support programs. Such things as housing, health care, leadership, are absolutely fundamental to keeping and supporting the fine professionals that we have—and you will hear a great deal from me about those subjects over the next several years.

Of course training, retention, and recruiting are somewhat functions of one another. In recruiting we must take advantage of that very important "one Coast Guard" family idea. We need an all hands effort, and we need as much help as we can get from the auxiliary, reserve, and retired community to recruit the kind of professional people that we need. I suppose one might say that if Alex Haley can do it for us then certainly a number of others can participate as well. I am indeed grateful to that busy man for taking the time to provide us with a recruiting spot in the final episode of "Roots Two." I hope you will look for it when it airs on February 25th.

To conclude I observe that—yes, today our resources, especially people and ships, are rather scarce. Moreover, at a time when there is a need to do more in the maritime area, we find ourselves in a very scarce budget climate. That is not to say that I will not argue aggressively and strongly for the additional resources that I can justify, however I must point out to you that it is going to be a difficult and uphill battle. As kind of a bottom line, I think that providing adequate leadership, training, and support of our people will be among the most important things that we can do over the next several years.

I appreciate your kind attention and the opportunity to share my views with my fellow Coast Guard professionals.

Admiral HAYES. Thank you, sir.

In addition to Vice Admiral Scarborough, Vice Commandant, and Rear Admiral Stewart, Chief of Staff, I also have at the table with me to my left Captain Larson, Chief of the Budget Division, and to my right, Captain Robbins, Chief of Programs Division.

Mr. Chairman, this request is in keeping with the National desire to limit the growth of Government spending. The key points that I would call to the attention of the committee in the statement are the following:

OFFICER CORPS CEILING INCREASE

First, with respect to our commissioned officer corps, we would like to increase the ceiling from the current level of 5,000 to 6,000 to permit adequate flexibility to manage our officer personnel.

OVERSEAS INSPECTION COSTS

Next, authorization to recover overseas inspection costs for categories of merchant vessels not covered by the Port and Tanker Act of 1978, is proposed.

LIGHTHOUSE KEEPER PAY

Also requested is an increase in the statutory limitation of \$7,500 on the annual pay of the lighthouse keepers to \$15,000 is proposed.

OPERATING EXPENSES

In our Operating Expenses appropriation we are asking for a total of \$1,037 million, the bulk of which provides for continuation of ongoing operations, and only \$17 million represents increases in program activity.

ACQUISITION, CONSTRUCTION, AND IMPROVEMENTS

Our "Acquisition, Construction, and Improvements" appropriations request is heavily weighted toward hardware. We request purchase of three medium endurance cutters and continuance of the MRS and SRR replacement programs.

These three major hardware buys represent about 66 percent of our total AC and I request. Also contained in this appropriation are several projects which are aimed at improving training facilities to cope with the changing needs of the service.

TRAINING

I cannot stress enough in this statement my commitment to a solid training base for the Coast Guard. Training is vitally important at all times. From my recent travels throughout the Coast Guard, I am convinced that we are not keeping abreast of the need for increased professionalism caused by the growing complexities of our society.

FUNDING NEW PROGRAMS

The myriad of new programs that the Coast Guard has assumed in recent years, I believe, has stretched our limited resources, and our personnel, to the limit. We have experienced a reduction in our first team retention rate of enlisted personnel, from 26 to 16 percent.

Today's difficulties in recruiting magnify our training problem. I feel we must increase our efforts in this area.

RESEARCH AND DEVELOPMENT

Our Research and Development appropriation is basically a follow-on to prior years. The slightly less than \$22 million we are requesting will continue to place a heavy emphasis on marine environmental protection.

OUTER CONTINENTAL SHELF LANDS ACT FUND

Mr. Chairman, I would also like to point out the addition of a new appropriation in our request, which, of course, you referred to in your statement. I refer to the new Outer Continental Shelf Lands Act Fund, which responds to enactment of Public Law 95-372, the Outer Continental Shelf Lands Act Amendments of 1978.

Mr. Chairman, before closing, I would like to share with you the impressions that I have gained as a result of my travels around the Coast Guard after becoming Commandant. First, I have been highly impressed by what I have seen of the men and women in the Coast Guard. I do feel that the service is as lean as it can possibly be.

We have been stretched to the limit.

Finally, I would be less than candid if I did not mention my particular concern with the condition of the Coast Guard fleet. It needs attention.

In closing, I appreciate the support that you and your committee have provided the Coast Guard in the past, and I certainly promise

to do my part to insure that our fine working relationship continues during my assignment as Commandant.

That completes my summary of the statement, Mr. Chairman. If you like, I will continue now with a brief description of goals and objectives, which we have established at this juncture.

GOALS AND OBJECTIVES

I have divided them, Mr. Chairman, into two categories. I would call them internal objectives that deal with the internal working conditions of the Coast Guard, and external, which deal with our relationships with others outside of the Coast Guard.

With respect to our internal goals and objectives, I would call to your attention two which specifically concern people.

PROFESSIONALISM

The first is the goal of assuring that we have adequate professionalism in our people.

PERSONNEL RETENTION

Second, we must assure that we have adequate retention of our trained personnel. Obviously, the two are closely interrelated. With respect to those goals, I have identified a triad of serious concerns that have to do with the leadership, and the training and the support of our people.

STATUS OF BACHELORS

When I talk about our people, I would like to emphasize one point, which perhaps we may come back to later. I am really concerned about our bachelors in the Coast Guard. I feel that they, and this is true in the other services as well, are not receiving the kind of support that they deserve.

I have identified as a result of my travels—

Mr. BIAGGI. What do you mean specifically by that, Admiral?

Admiral HAYES. Well, the bachelors are paid differently than the married personnel. When a ship at sea returns to port, the married personnel, unless they have the duty, go home to their families, their own houses, their own stereo systems. The bachelors, however, really do not have homes to which to go in port.

I consider that in today's world, the bunk on a ship in port is probably inadequate housing. I am going to take some steps to correct that in a manner similar to actions taken by the Navy.

With respect to what I would call the glue that holds the Coast Guard together, and I feel makes it the kind of organization that it is, I have identified two specific areas that I will continue to pursue and to enhance.

MILITARY MISSION

The first is the military character of the Coast Guard. Our military character greatly enhances our ability to perform our missions, and I certainly intend to continue that capability within the Coast Guard.

PEACE TIME MISSIONS

The other, which is perhaps more philosophical in nature, is our humanitarian concern. This, I think, is an important attitudinal motivator for our people.

Within this arena, I look upon, search and rescue as the prime motivator. Occasionally I think we agonize too much over what the Coast Guard should do, and what we ought to share with others. My observation in the field of search and rescue, is that there is plenty of work for everyone; our Coast Guard Auxiliary, along with the reserve, are welcome additions in performing those humanitarian conditions.

MATERIAL CONDITION OF PHYSICAL PLANT

Turning now to material conditions, I would give you this assessment as a result of my travels. With respect to the aviation side of the Coast Guard, I feel material condition is, on the whole, excellent. With respect to our shore establishment, that is, that portion of the Coast Guard which supports the ships and aircraft and small boats, it is from fair to good.

My view of our ships is that on the average the overall material condition is poor. I intend to take steps to improve that. That will be one of my major goals.

MULTIMISSION MANAGEMENT

With respect to the management of the Coast Guard, I have reviewed very carefully the present concept under which we operate, that is, the multimission approach that we take with both facilities and personnel. It is my view that even though, it is inefficient at times, from a standpoint of effectiveness, it remains our best approach and the best way to manage the taxpayers' dollars.

It does mean, however, greater emphasis on the need for training. I feel that, with increasing congressional concern over how Federal agencies are spending the appropriations that they receive, we do have to find better ways of measuring our performance and evaluating how well we are doing.

COAST GUARD STAFF SCHOOLS

Finally, in the management arena, it is clear to me that we have come to the point where we should establish Coast Guard staffed schools that will fill the gap that exists in training our own people to manage our multiplicity of missions. When I speak about that, I am talking about middle management, specifically the new chief warrant officer, when he is promoted, and the new chief petty officer, when he is advanced.

INFORMATION SYSTEMS

Finally, in the management arena, I hope to make progress in the way in which we deal with information systems.

Turning now to our external relationships, I would just very quickly run through these.

OCEAN POLICY

First, I hope to continue and perhaps expand on a strong leadership role which my predecessor took in the matter of ocean affairs and ocean policy. It is obvious to me, and you commented on it in your statement, that we are going to find more and more activity offshore. I do see a great deal more responsibility for the Coast Guard, which has the missions, the capital plant, and the communications and the logistics to assume and to maintain a strong leadership role in this area.

STATE AND LOCAL GOVERNMENT COOPERATION

I see an increasing involvement on the part of State and local governments in our affairs. No longer are the State and local governments willing to let us make decisions without questioning them. They want to be involved, and I think it is a good part of our democratic process.

I hope, through my field commanders, to establish cooperation between these governments, and that we coordinate the resolution of problems that are of concern to these governments.

Both internally and externally, I would like to see perhaps a better awareness of what the Coast Guard is and does. I do not like to categorize that as the Coast Guard image. Rather, just an understanding of what a complex organization we are, and what we do, will greatly enhance our ability to interact with interest groups and other governmental entities.

REGULATORY FUNCTIONS

In the regulatory arena, Mr. Chairman, we are increasingly going to have to look at the energy and the economic implications, as well as the political implications, of our regulatory decisionmaking.

In the past, and more recently, we have been concerned with safety and the environment; today that has to be expanded, and that also makes our decisionmaking more complex.

Having said that, I would hope that at least we can simplify some of the regulations, and some of the regulatory impact that we have on industry.

OUTER CONTINENTAL SHELF DEVELOPMENT

You mentioned Outer Continental Shelf development. One of my most significant objectives is to participate strongly in the activities that are going on in the Outer Continental Shelf, to look at the services which we should be performing as well as the regulatory actions that we should be taking.

STRATEGIC PLANNING

I see the need for a lot of strategic planning in this area, as well as the tactics of how to go about it, and to that end, I anticipate that I will be establishing within our organization the capability to do this a little bit better. Finally, and by no means last, as Mr. Duncan politely pointed out when I appeared before his committee,

I do intend that our relations with the Congress are promoted, are continued in the way which my predecessor has established.

SEAGOING ACTIVITIES

That is a pretty quick rundown, Mr. Chairman, of the most significant goals and objectives that I see. An interesting thing which we have encountered recently is that we have shifted gradually from a major emphasis on our seagoing activities to increasing emphasis on regulatory activities. As we lost the ocean stations, we decommissioned about 18 to 21 Coast Guard major cutters, depending on how one views the numbers.

In the process of doing that, what we did was to decrease our capability of training people in those seagoing functions that they must become expert in, in order to become a competent regulator. That, too, has increased our professionalism problem.

Thank you very much, Mr. Chairman, for giving me this opportunity.

Mr. BIAGGI. Thank you very much for your views, and for your statement.

In reference to your closing remarks, from what I can extrapolate from that is that you are not providing the laboratory, in which the men can function from a practical prospective.

Admiral HAYES. The laboratory has been reduced in size, yes.

USER FEES FOR OVERSEAS INSPECTIONS

Mr. BIAGGI. In your statement, you make reference to three areas that are not contained in my bill but which I understand are reflected in the administration's bill. In the absence of the administration's proposal, we submitted our own bill.

The three issues that you would like us to consider are:

One, raising the total allowable number of commissioned officers;

Two, recovery of overseas vessel inspection costs; and

Three, adjusting the pay of the one remaining civilian lighthouse keeper.

With respect to the recovery of overseas vessel inspection costs, I consider this item to be both complex and highly controversial. In addition, there has been no staff review of the problem—the parties directly concerned have not been given timely and adequate notice—nor can they be given an opportunity to be heard. I also believe the subject matter should be a separate legislative initiative.

However, I see no problem in discussing the other two items and would like to hear addition comments as to their need.

I simply do not understand, frankly, the behavior of OMB in being so dilatory in submitting their budget, their proposed budget to us for consideration.

In any event, I believe this committee is functioning consistent with the expressions of the President, and so is the Coast Guard, to maintain as austere a budget as possible. The people of this Nation have spoken, and the Congress heretofore, apparently, has not reflected this evidence of the people.

I think the message is loud and clear, and our considerations in which we do not want to deny the Coast Guard anything that is

necessary, and our previous attitude toward the Coast Guard in advocacy of their needs, has been clearly recorded.

In your statement, you stressed the importance of training and admitted that the Coast Guard was not keeping abreast of the need for increased professionalism.

Yet your request for military training student loads shows a decrease in recruit and special training and officer acquisitions, and an increase of only 2 students in professional training.

How can you increase professionalism and training in the Coast Guard with figures like that?

Admiral HAYES. Mr. Chairman, those particular items are not the ones that are going to be my major training emphasis.

My major training emphasis will be in the Coast Guard's schools for its own enlisted personnel, and the involvement of our people in pretransfer training for new assignment, in order that they may be prepared for that job.

This is one of the shortfalls that I wish to correct.

PERSONNEL STRENGTH

Mr. BIAGGI. You make reference to personnel being a lean picture. Is it too lean?

You say it is stretched to the limit?

Admiral HAYES. I would categorize it right now as being a situation, Mr. Chairman, where we are meeting needs to carry out our responsibilities at the expense of overworking our military personnel. Obviously, this is a concern to me.

Mr. BIAGGI. Well, that being the case, does it follow necessarily that maintenance and training are impaired, or are you down to bare acceptable factors?

MATERIAL CONDITION OF SHIPS

Admiral HAYES. I think probably the latter is a fair judgment, Mr. Chairman.

Let me say this: Particularly with respect to the material condition of our ships, I am not just starting something new. My predecessor had begun, under his administration, the development of a maintenance system for all our vessels. That is already underway.

There are a variety of things that I feel need to be done to greatly improve the way in which we maintain our vessels.

I frankly kidded our people a bit, since I am a sailor by background and profession, and I thought I could do that legitimately. We really have not taken advantage of the experience and knowledge and ability of the aviation side of the House in the maintenance of our capital plant. I think we can apply a lot of those principles that perhaps we have not in the past.

Mr. BIAGGI. In that light, I think training becomes an especially important factor in our deliberations. It would seem to me that with so lean a personnel structure, that maintenance and training are ones that we should focus a great deal of attention on.

I do not know that I or this committee would be satisfied in functioning with a bare-bones attitude in that area. If we could embellish that area, and if you were not stretched to the limit in

personnel, would it enhance the safety of Coast Guard personnel and the public?

Admiral HAYES. I think that is a fair statement.

There is always the question of how much training is enough. Right now we devote about 25 percent of our aviation assets to training.

The question has been raised in the past, of course, whether that is not too great a portion of expensive resources to be devoted to just training. Yet I think the same logic that dictates doing that for the safety of our aviation people dictates that we adequately train our people when we are operating our small boats at sea, under arduous and dangerous conditions, where they do lose their lives occasionally, as well as our people aboard ship.

SAR STATION READINESS REDUCTION

Mr. BIAGGI. You have a plan to reprogram some 139 personnel, search and rescue stations, and this will be done by closing stations.

Is my understanding correct?

Admiral HAYES. No, sir, that is not quite the concept, Mr. Chairman.

Our intention is to take some of those stations which we have clearly identified as having a fairly predictable workload, and reducing the immediate standby readiness of the people at these stations during those periods of time that we are less likely to get a call.

That does not mean that the station is closed down. There will be personnel on duty at the station, telephones will be answered. If something occurs, an effort will be made to round up a boat crew, and if that is not possible, an adjacent station will be activated to handle the case.

It is doing in the search and rescue mission what we are having to do now in every mission that we undertake, Mr. Chairman. That is, to try and peel off at least as much fat as we find we have at a particular unit, rather than closing it down.

Mr. BIAGGI. You said, "Make every effort to round up a crew." What does that mean?

Mr. STUDDS. Town crier approach.

Admiral HAYES. No, not really. We would call our personnel at home. They would be at home.

Mr. BIAGGI. In your judgment, would that be a satisfactory process?

Admiral HAYES. I can harken back to my own previous experience; one of my prior jobs was on a Coast Guard ship, and we were constantly on 2-hour standby.

The practice had been not to grant any of the crew any relief from that standby. We adopted a policy of granting onethird of the crew relief from the 2-hour standby. We never failed to meet a mission, we never failed to have at least sufficient personnel to carry out that mission. It is this kind of thinking that is going into this.

Really, it is a pilot program. We are not talking about very many cases, and we are talking about low-level activity.

OUTER CONTINENTAL SHELF LAND ACT RESPONSIBILITIES

Mr. BIAGGI. You made reference to the Outer Continental Shelf Lands Act Amendments. Do I understand, however, that you are not asking for any new personnel to meet those responsibilities?

Admiral HAYES. At the present time, Mr. Biaggi, we have just about completed our analysis of the personnel that we will need for the inspection function.

We have reprogramed resources in order to take care of our management of the new fund, which of course is a part of that legislation. As soon as we complete our analysis of personnel requirements, it is my intention to provide them to the Office of the Secretary, and it will then be reviewed by them.

Mr. BIAGGI. You have not made an initial request of all personnel?

Admiral HAYES. We have not made a request that I am speaking of, no, sir.

Mr. BIAGGI. I have a number of questions, but I am sure my colleagues have additional questions.

But I would like to ask one more question that seems to deal with personnel.

DRUG INTERDICTION EFFORTS—PERSONNEL

In connection with law enforcement in pursuit of drugs: One of the undercurrents that seems to persist while I talk with personnel on law enforcement duty, is that although the men like it, the men like the activity, it is stimulating and morale building, and exciting, is that they feel that it interferes with their career path, and that this kind of activity does not enhance their career objectives.

Would you care to comment on that observation?

Admiral HAYES. I think I understand the trend of what is behind the question, Mr. Chairman.

I gather that perhaps behind the question lies the thought that we should have a law enforcement rating, or something of that nature, which would be associated with a particular career pattern.

If that is what is behind the reaction you have been getting—although I have to confess that I have not encountered that particularly.

At any rate, if that is the case, it is an attractive option. For a number of years, the Coast Guard has looked at the matter of whether or not they should have law enforcement rating, an aid-to-navigation rating, or other mission-oriented rating.

My judgment is that it would be virtually impossible to manage personnelwise in a small organization such as ours.

We would have to change the way we use our vessels, and our boats, because they're all multimission. As one looks at it more and more deeply, it is less and less attractive to do that.

I sympathize with their concerns. I have gotten from a number of our people that kind of concern, that is the fact that they are not able to specialize to the extent that they would like to, and hence job satisfaction is not as great as it could be.

So this, I guess, is probably what you are speaking to in your question. There are some things that we could do about it.

I hark back to our discussion in training. It is my view that if we prepared our personnel better as they go from one mission to another, and second, if we can, through better personnel management, have longer tours, that we can at least solve part of that problem.

Mr. BIAGGI. I understand that the multimission concept is critical in the operations of the Coast Guard. I just did not want it to be a liability to those assigned to this particular activity; that is all.

Admiral HAYES. I would not want to mislead the committee in any sense. It is my view that the Coast Guard right now remains an extremely effective organization, and I think that we are finding that the pressures of recent events are catching up with us, and there are things that we can do to insure that that continues.

Mr. BIAGGI. Mr. Studds

Mr. STUDDS. Thank you, Mr. Chairman.

Mr. Chairman, like yourself, I have questions that will go over my 5 minutes time. I am sure the Chairman will tell me if I go over.

SAR STATION READINESS REDUCTIONS

One thing that Mr. Biaggi mentioned, I note that you have a projected increase for law enforcement, and also for drug-related enforcement, within that, and a reduction of personnel for search and rescue.

Now just speaking personally I would want to save people from drowning rather than bring in more marihuana. I am very disturbed by your response to the chairman on the net reduction as I understand it, 139 military personnel in search and rescue for a saving of \$100 million.

I would like to know if you can just—what areas are going to be affected, and what is going to happen? What coverage which is now being offered in stations in this country is not going to be available in the future?

Mr. OBERSTAR. If the gentleman will yield?

I may be anticipating my colleague. Can you identify those areas and those stations that are going to be reduced?

Mr. STUDDS. That is part of what I meant to ask, yes.

Admiral HAYES. First of all, Mr. Studds and Mr. Oberstar, you're expressing the very concerns that we ourselves have. Naturally, at any time, I am disturbed when we have to look at reducing services, no matter what we are doing.

Mr. STUDDS. Especially if you are in a fishing boat floundering in the winter, it is not comforting to know that folks are out looking for drug pushers.

Admiral HAYES. I do not think we are talking, Mr. Studds, about that situation.

Mr. STUDDS. That is what I am trying to find out; what are we talking about?

Admiral HAYES. We are talking about a station whose boats are not involved, first of all, in that kind of offshore mission.

Mr. STUDDS. You mean the Great Lakes?

Admiral HAYES. No, the rescue of the fishing vessels.

Mr. STUDDS. Where are they?

Admiral HAYES. For the most part, I think you would agree, most of our actions with fishing vessels are first with the helicopter on

scene, to rescue personnel if it is that urgent, and then alternately, towing by a larger vessel.

Mr. STUDDS. I just want to know where you're going to be rounding up these boats in the wee hours of the morning.

Admiral HAYES. One of the districts that we have looked at so far is the First District.

Mr. STUDDS. I am particularly interested in that one.

Admiral HAYES. I thought you would be, Mr. Studds. Block Island and East Port are units that have an extremely low incidence of search and rescue.

Mr. STUDDS. Let us take one example. I am not familiar with either of those stations.

Let us take the one on Block Island. What coverage is available that would not be?

Admiral HAYES. Only the availability of an immediate Bravo Zero response, let us say at midnight. It might take 2, 3, or 4 hours longer to get a response.

Mr. STUDDS. By a "response," what do you mean? A rescue craft underway?

Admiral HAYES. A craft to take its place from, let's say, Air Station Cape Cod, a helicopter, or from an adjacent rescue station which does have the level of readiness required.

Mr. STUDDS. In other words, you damn well better not get in trouble between what, midnight and 8 o'clock?

Admiral HAYES. Not at all. It is just that between those hours at that particular location, we would not have as high a level of readiness there as we do at adjacent locations.

Mr. STUDDS. Which are further away?

Admiral HAYES. May or may not be.

Mr. STUDDS. Yes.

Admiral HAYES. We will have the distance between two stations—

Mr. STUDDS. I understand that. The people always have the consideration when they are in trouble—

Admiral HAYES. Mr. Studds, I am sure you are aware that there is not any part of our coast that could not stand more search and rescue stations.

Mr. STUDDS. That is exactly what I am aware of, and that is why I want to know why we are reducing them.

Admiral HAYES. I am trying to look at the workload of all our people in the Coast Guard, and find the places where people, the commodity that we are concerned about, are being least utilized, and that these locations that we have identified, these are—

Mr. STUDDS. Is that a long list? Would it take a lot of time to read that?

Admiral HAYES. No; it is not a long list.

In the Fifth District, it would be Cape Lookout, Cape Charles and Hoboken.

I would like to make one final comment, if I may. These are initial analyses. We would expect that the district commanders would look at them, and might want to make different recommendations.

Mr. STUDDS. I dare say.

Admiral HAYES. But at any rate, these are the general locations. In the Seventh District, Georgetown. In the Ninth District, St. Ignace, Frankfurt, and Two Rivers.

Mr. STUDDS. Are you all right, Mr. Oberstar?

Mr. OBERSTAR. So far.

Mr. BIAGGI. I want you to know at this point everything becomes very parochial.

Mr. STUDDS. We have not begun the parochial business yet, Mr. Chairman.

Well, I guess we will let it stand at that.

Admiral HAYES. Incidentally, Mr. Studds, all is not lost when we do this. When you take these kinds of actions, we will be doing two other things. We will be enhancing our Coast Guard Auxiliary support of that area; and we will also be enhancing Coast Guard Reserve support.

Mr. STUDDS. I am all for Coast Guard Auxiliaries, but thank you, not at 2 o'clock in the morning in February in Long Island Sound.

Admiral HAYES. Most certainly. Our best judgment is that that eventuality is not going to occur.

Mr. STUDDS. Yes, OK.

I will refrain from comments about all kinds of things. I am sure you are about as happy about this as I am. We can add this to the list; what do we have, nutrition centers and widows benefits and search and rescue?

It is a remarkable record being written by OMB, and the administration. Every year we talk about putting these folks back in the Department of Defense.

Ms. MIKULSKI. Who? OMB?

COAST GUARD BUDGET LEVEL

Mr. STUDDS. No, the Coast Guard. You have a net increase over the appropriations for the current fiscal year of 5.2 percent.

Admiral HAYES. I had it in my statement, Mr. Studds.

Mr. STUDDS. That is correct. I am pretty sure.

Do you happen to know what the real rate of inflation in the economy was for that year?

Admiral HAYES. What we used for our increase was 7.6 percent.

Mr. STUDDS. So we have a substantial—over 2-percent reduction in real terms in the Coast Guard's budget?

Admiral HAYES. That is probably a fair judgment.

Mr. STUDDS. As contrasted with that other department.

OK, that speaks for itself. Let me sneak in one more question, and then I will yield and come back.

We are going to go around again, Mr. Chairman?

Mr. BIAGGI. Yes.

TANKER "AFGHANISTAN" GROUNDING

Mr. STUDDS. As you know, on January 20, the British tanker *Afghanistan*, foundered on Nantucket Shoals, and one thing, giving us some awful memories going back to the *Argo Merchant*, we heard as you did, a lot of rumors from fishermen that this was a common practice of tankers taking a shortcut over those shoals.

And if that is the case, it would be an extraordinary act of stupidity by the master of the vessel.

We understand that the Marine Safety Coast Guard office in Boston was quoted as saying they were going to conduct an investigation as to whether those rumors had any foundation.

Is such an investigation underway?

Admiral HAYES. Yes, it is. I have not received a report of that investigation yet, so I cannot give you a definitive answer. I can expound upon it a bit, though. I share your concern on that.

When I first found out about it, I suppose I was as angry as I have been over almost any event that has occurred, because I consider that not only to be an example of horrible navigation, or if not that, then extremely faulty and almost irresponsible judgment on the part of the master.

I feel there are steps that we can take, and most certainly, we are proceeding in that direction.

Internationally, at least, under present international law, we can, I believe, get certain areas such as that area of Nantucket Shoals, declared to be an area to be avoided.

Now this——

Mr. STUDDS. Do we have that authority under current international law?

Admiral HAYES. It goes through the IMCO process. That is done on a worldwide basis, and that would be an effective instrument to prevent that, if it seems warranted.

My initial indication, if borne out by this investigation, is that I think it is warranted. So we have already started that process.

Mr. STUDDS. How long is that process?

Admiral HAYES. We would submit it in September of this year, when I go before IMCO at the general session.

Mr. STUDDS. And then?

Admiral HAYES. I cannot tell you. I am not that familiar with the procedures.

Mr. STUDDS. You have anyone who knows whether we are talking in your lifetime or mine?

Admiral HAYES. No, I think we are talking within a matter of 2 years, at most, perhaps.

Mr. STUDDS. Two years, at which point if it is successful and you do it in 2 years, you will have what? Marked on the chart that this is a prohibited area for traffic?

Admiral HAYES. It has an actual term or phrase of art that is used internationally, that is, the area to be avoided.

That would go on the chart, to answer your question.

Mr. STUDDS. If that were accomplished, would the Coast Guard then have the lawful authority to stop vessels going in there?

Admiral HAYES. To board and investigate, to review their documents, to prevent them from coming into port, yes.

Mr. STUDDS. And also to stop them if they're headed for the area——

Admiral HAYES. I doubt that, Mr. Studds.

Mr. STUDDS. Then what good is it?

Admiral HAYES. Well, and I confess that we are in an area here that I have no personal experience with, it is my understanding that this has been most effective worldwide.

When such an area is established through IMCO, it is very carefully——

Mr. STUDDS. What are the sanctions for violating it?

Ms. MIKULSKI. That is minor.

Admiral HAYES. I do not think there are any sanctions, Mr. Studds. We can make it so uncomfortable for a ship, or shipowner, or the nations involved, if it appears that that is the case.

It could be made very difficult.

Mr. BIAGGI. Will the gentleman yield?

It would seem to me if a vessel is headed in the direction to be avoided, the Coast Guard should take some initiative.

Admiral HAYES. Mr. Chairman, we could certainly warn. I am not sure of the extent to which we would have the legal right to stop the vessel itself.

I might add one thing to the comment that I made before, appropos the effectiveness of such an action. You know, since we have started the inspection program for foreign tank vessels, this has had a tremendously salutary effect on the upgrading of readiness to meet our standards, and that was without any legal authority on our part to demand that, within a flag nation, they do that.

So I think that since we are a maritime nation of some influence in the world scene, that action could have a very substantial effect.

Mr. BIAGGI. The gentleman's time has expired.

Mr. STUDDS. Thank you.

Mr. BIAGGI. Mr. Myers.

Mr. MYERS. Thank you, Mr. Chairman.

I first would like to welcome Admiral Hayes here. Admiral Hayes is a brother Pennsylvanian. He comes from a beautiful part of our State known as the Big Wood counties in Bradford, Pa.

DELAWARE BAY BUOY WINTER DAMAGE

I represent the Port of Philadelphia, and so far this winter, we have had a lot of damage to buoys and markers in our channels, not only in the Delaware River, but also part of the Delaware Bay, and it concerns me with this austere budget that we are reviewing here today, what effect this would have on the upkeeping chores that the Coast Guard would provide us with for taking care of these buoys.

Obviously, there is going to be some cutback, and I think I would like to know where we stand as far as my area is concerned, and I'm sure my colleagues here are concerned about their own areas.

But what effect will that have overall, the repairs, once the winter is over, and the spring comes?

Admiral HAYES. Mr. Myers, it will not have any effect on normal standards of the aids to navigation in your area.

What it does mean is that it has an impact upon our budget; storm damage, and ice damage of the type you are discussing, is normally included as a budgetary contingency item.

But I can assure you that the priority of aids to navigation and search and rescue, I might add is such that, we would not——

ICE BUOYS

Mr. BIAGGI. Would the gentleman yield? I understand that you have these everywhere.

There was an aerial survey conducted last weekend which indicated only one ice buoy was sighted. Has there been any provisions within the budget for the presence of the necessary ice buoys?

Admiral HAYES. I am not aware of the problem that you have identified, Mr. Chairman, and I do not believe the budget specifically identifies that as a budget item.

Mr. BIAGGI. I wonder if you would have your people up there check that out and get back to us?

Admiral HAYES. Most certainly, Mr. Chairman.

Mr. BIAGGI. So that this committee can deal with that in the proper fashion.

Admiral HAYES. I was not aware of the ice buoys problem which you have identified.

Mr. BIAGGI. We would appreciate that as quickly as possible, what the cost might be.

[The following was received for the record:]

PROVISIONS FOR ICE BUOYS

There is no provision in the budget specifically for ice buoys. An ice buoy of our current design costs about \$10,000. The acquisition of ice buoys might be included among the waterway aids to navigation projects for which we are requesting funds in the A.C. & I. appropriation, if we believed that they would permit a substantial improvement in the effectiveness of aids to navigation. We really do not think, however, that these buoys offer a general solution to the problems generated by ice in navigable channels.

We know of no buoy which will hold its position and operate normally when exposed to a heavy ice flow. Those buoys which we call ice buoys are designed to submerge easily under a heavy ice flow, and to resist ice-induced damage. The intent is to maximize the probability that the ice buoy's anchor will hold its position when ice is present, and that the buoy will operate properly when the ice clears. The peculiar design of our ice buoy, incidentally, makes it a poorer visual signal than our regular buoys, under normal conditions. Generally, ice buoys are used only as temporary replacements for other buoys when ice is expected, and when the ice buoys may offer an appreciable advantage. We do not think that, at the present state of the art, ice buoys would be a major advantage in the ice conditions which we have seen in recent winters in the Delaware Bay.

I am instructing our Coast Guard engineers to reexamine our present ice buoy design, and determine whether it might be improved significantly. We will also initiate engineering studies of fixed, ice-resistant structures which might be built, selectively, to improve the marking of waterways like the main shipping channel in lower Delaware Bay. The expected cost of such a structure is in the neighborhood of \$500,000.

Mr. BIAGGI. Mr. Myers.

Mr. MYERS. Thank you, Mr. Chairman, for bringing that point out.

That was brought to my attention also. I have no further questions, Admiral.

Thank you.

Mr. BIAGGI. Mr. Oberstar.

Mr. OBERSTAR. Thank you, Mr. Chairman.

I am curious, Admiral, as to why the administration proposed 2-year authorization. The Chairman alluded to that in his opening statement, authorization request for 2 fiscal years.

Admiral HAYES. It is our understanding, Mr. Oberstar, that this is required under the Congressional Budget and Impoundment Control Act of 1974.

Mr. OBERSTAR. Just for that reason only?

Admiral HAYES. That is what I understand.

Mr. OBERSTAR. It is intended to change the method of operation?

Admiral HAYES. I am not aware of any such purpose, no sir.

Mr. BIAGGI. If the gentleman will yield?

Mr. OBERSTAR. Yes.

Mr. BIAGGI. We exercise our own prerogatives here.

Mr. OBERSTAR. In discussing the problems of recruiting and retention of officers, you mentioned the Coast Guard is undertaking a program to correct the decline in retention rate.

What specific things are you proposing to do? Will they require additional funding?

Admiral HAYES. I have a list of about 60 different actions Mr. Oberstar, that I am contemplating in a variety of areas, mostly dealing in personnel policies and personnel management.

Mr. OBERSTAR. Do you have a greater retention problem than the Army, Air Force, and Navy are experiencing?

Admiral HAYES. Perhaps I can put this in perspective for the committee.

First of all, when I was talking about retention, I was talking about our major problem, which is with enlisted personnel, and not commissioned officers.

Among our commissioned officers, the only area that we are having any problem in retention is our aviators and we are most certainly not alone in that problem. The other services are having that problem because of the attractiveness of the commercial airlines at this moment. They're doing a lot of recruiting, and I have to confess, rather successfully.

Having said that, the major problem we have is that in second and subsequent enlistments, this would be in the 8 to 12 year total career time period. We have dropped from an average of about 87 percent reenlistment to around 67 percent reenlistment.

Now, of course, what that means is that our top professional petty officers are in that category. These are the people whom we have trained very substantially in the various mission areas. So that means that that hole has to be plugged from the bottom. During the interim, while we train these people, we are putting less experience and less fully trained people in those petty officer jobs.

That is the one part of the problem. The other part of it is that our first term reenlistments have fallen also, so that simply compounds our difficulties in keeping that pipeline open and flowing.

The reason for the problems with retention are really twofold: One does have to do with inflation. I would hope this committee would support equalizing the pay of our military personnel with their counterparts on the outside once again.

The cumulative effect of not quite reaching the cost of living each year with a pay increase is obviously, that our people are truly falling behind. They also perceive, in some respects rightly, that a lot of their fringe benefits are being withdrawn.

For example, the GI bill of rights is no longer effective past a certain time for our people; this means if they stay in the Coast Guard for 20 years, they're not going to be able to take advantage of the GI bill as they used to do.

On the other side, you hit the nail on the head, Mr. Chairman, is job satisfaction. I had not realized that until I completed my tours around the Coast Guard. There are a lot of things that I am contemplating doing.

Our bachelors, I have mentioned before. In order to help—

BACHELOR PAY AND ALLOWANCES

Mr. BIAGGI. What percentage of the corps is bachelors?

Admiral HAYES. We can provide it for the record, Mr. Chairman, but I would say a substantial portion, probably 50 percent, would be close to the number of people who are bachelors.

[The information follows:]

Percentage Personnel Bachelors

Category	Number	Number w/o dependents	Percentage
Commissioned officers	4,759	1,211	25.4
Warrant officers	1,355	111	8.1
Enlisted.....	31,311	16,953	54.1
Total.....	37,425	18,275	48.8

Note.—Data reflects service members with dependents (including spouses) and may differ slightly from statistics reflecting actual marital status.

Ms. MIKULSKI. Does that mean bachelor of arts?

Admiral HAYES. No, ma'm, I am talking about marital status.

Ms. MIKULSKI. And how many are spinsters?

Admiral HAYES. We have not gotten into that with the Coast Guard yet. We are not that old. But I assume that will be a comparable problem.

I would point out that when I say, bachelors, we are not excluding spinsters; we are talking about bachelor men and women, unmarried men and women who get paid precisely the same whether they are male or female.

Mr. STUDDS. But they are not paid the same whether they are married or unmarried?

Admiral HAYES. That is correct.

Ms. MIKULSKI. You mean we encourage sin, Admiral? We encourage living in sin?

Bachelors are paid less, right?

Admiral HAYES. Let me point out where the interesting difference is.

The bachelor, as I mentioned, comes in from his tour at sea, on his onshore duty, and does have a fairly large room, where he has his stereo, his couch, the personal things that bachelor people should be able to enjoy too.

When he or she gets transferred, they may not transport those as household effects under the law. They are treated differently than the married person.

So it is this kind of thing—

Mr. STUDDS. Is that by law or just by custom?

Admiral HAYES. No, that is by law.

Mr. STUDDS. Are we responsible for that?

Admiral HAYES. I would not attribute the responsibility. These are examples that I might identify.

Mr. BIAGGI. In the old days, the bachelor had a friend in every port.

Ms. MIKULSKI. Instead of a chair.

Mr. OBERSTAR. Is the difference in pay; statutory or a matter of policy?

Admiral HAYES. Most of the differences are statutory in nature. The base pay is the same.

Mr. OBERSTAR. The base pay is the same?

Admiral HAYES. Yes, the differences are in the various allowances.

Mr. OBERSTAR. Are those statutorily set, or are they based on policies that you have the authority to change?

Admiral HAYES. No, they're statutory likewise.

Mr. OBERSTAR. Maybe we should have a list of those and take a look at them, Mr. Chairman, and Admiral. If we are going to make some changes, now is the time to take a good look at the compensation and assist you in your task of keeping people in the Coast Guard.

Admiral HAYES. I would be delighted to provide that to the committee with a rather strong letter concerning those things that I think need to be done to help our people.

Mr. BIAGGI. We appreciate that. It seems to be something very patently unfair.

[The following was received for the record:]

STATUTORY DIFFERENCES IN TREATMENT OF BACHELORS

37 U.S.C. 403—Basic allowance for quarters

All married personnel with dependents are entitled to a Basic Allowance for Quarters as prescribed by 37 U.S.C. 1009 regardless of the duty assigned except when adequate government quarters are provided for the member and his dependents. Members without dependents assigned to units (other than field or sea duty) where adequate government quarters are not available are entitled to this allowance at a reduced rate (without dependents rate). Members without dependents assigned to sea duty are not entitled to basic allowance for quarters (37 U.S.C. 403(c)).

37 U.S.C. 404 and 406—Travel and transportation allowances

Title 37, U.S.C. 404 states that regulations concerning entitlements of members to travel and transportation allowances shall be prescribed by the Secretaries concerned. These regulations are currently set forth in the Joint Travel Regulations. The current regulations provide for severely restrictive transportation weight allowances for personnel in pay grades E-1, E-2, E-3, and E-4 (with less than 2 years service). Therefore, regardless of the member's dependency status, these personnel are entitled to transportation at government expense of an extremely small portion of their personal/household effects (within CONUS this weight limit is currently 225 pounds). While the Secretaries concerned have the authority to amend these weight allowance limitations, funding that would permit an increase in these allowances for the junior enlisted personnel is not available.

37 U.S.C. 407—Travel and transportation allowances: Dislocation allowances

This section states that a member of the uniformed service whose dependents make an authorized move in connection with his change of permanent station is entitled to a dislocation allowance equal to his basic allowance for quarters for one month. Likewise the member without dependents, who is transferred to a permanent station where he is not assigned to government quarters, is also entitled to this

allowance. However, since most of our personnel without dependents are assigned to government quarters, few of them are entitled to this allowance.

37 U.S.C. 427—Family separation allowance

This section provides for payment of allowances in the following 2 categories:

1. The first compensates a member with dependents for the additional expenses he incurs by reason of being required to procure and maintain quarters for himself overseas in addition to quarters he maintains elsewhere for his dependents. It is not payable to a member assigned to a duty station in Hawaii.

It is payable to each member with dependents who is on permanent duty outside the U.S. or in Alaska who meets all of the following conditions:

a. Transportation of his dependents to his permanent station or a place near that station is not authorized at Government expense under provision of 37 U.S.C. 406. This applies to all members including members in pay grades E-1 through E-4 (4 years service or less);

b. his dependents do not reside at or near the station; and

c. there is no Government quarters or housing facilities available for assignment to him.

It is payable in a monthly amount equal to BAQ payable to a member without dependents in the same pay grade.

2. The second type compensates a member with dependents for added expenses incurred because of enforced separation from his family due to permanent change of station, duty on board a ship, or temporary additional duty. It is payable to qualified members serving inside or outside the U.S.

It is payable in a monthly amount of \$30 to each member with dependents, serving in pay grade E-4 (over 4 years service) or above, who meets all the general requirements and one of the following conditions:

a. Transportation of his dependents to his permanent station or a place near that station is not authorized at Government expense under 37 U.S.C. 406 and his dependents do not reside at or near that station.

b. He is on duty on board a ship away from its home port for a continuous period of more than 30 days and his dependents reside in the vicinity of the home port.

c. He is on TD or TAD away from his permanent station for a continuous period of more than 30 days and his dependents do not reside at or near his TD or TAD station.

Admiral HAYES. Incidentally, I am sure you are aware that this is the same in all the other armed services.

Mr. BIAGGI. It then makes it universally wrong.

GREAT LAKES LORAN C

Mr. OBERSTAR. I would like to go on to two other areas of interest. What is the status of the work on the Loran C navigation program for the Great Lakes?

Admiral HAYES. Are you talking about the St. Mary's operation, Mr. Oberstar?

Mr. OBERSTAR. Well, you have two already in place, and you have the third one—

Admiral HAYES. You are talking about Baudette then?

Mr. OBERSTAR. Yes; the Baudette site.

Admiral HAYES. The Baudette station will be completed later this year. The complete Great Lakes chain should be in operation in early 1980.

GREAT LAKES ICEBREAKERS

Mr. OBERSTAR. I know this is a matter of great interest and concern to the mariners on the Great Lakes.

As Mr. Studts mentioned a moment ago, had we directed the Coast Guard to proceed with an icebreaker 3 years ago, we would have one now.

Mr. BIAGGI. It takes a long time to get that Finnish icebreaker over here.

Mr. OBERSTAR. Where does the Coast Guard stand with the design?

Admiral HAYES. We are proceeding as planned. When I assumed my new job, I inherited that task and we completed the phase 1 portion of it, which is the preliminary design specification phase.

That was completed on schedule in November. We are now in the contract design specification phase of the program, and not having participated in the earlier hearings, Mr. Oberstar, I would like to make one comment as a professional in looking at this extremely important program for our country.

We have two separate things that I feel are very important to the decisions that will go into the final design decision on the icebreaker. One has to do with the effectiveness of the new 140-foot tugs, the first of which is, of course, on the Great Lakes, and incidentally, is performing quite well.

Mr. BIAGGI. Admiral, on that score, when you say, performing quite well, are they able to keep the waters open?

Admiral HAYES. In combination, Mr. Biaggi, with the other assets we have up there, we are doing as we have done in recent years, and that is keeping the Great Lakes open to commerce to the extent that we can.

Mr. BIAGGI. All year round?

Admiral HAYES. All year round, yes, sir.

So at any rate, this is the first case that greatly interests me, because the use of those vessels, in combination with our other assets, needs to be carefully evaluated.

Second, as you may be aware, the Canadians have designed, built, and operated an icebreaker similar to the icebreaker that we are anticipating for the Great Lakes.

I want to have the opportunity to assure that we take advantage of what the Canadians have learned with that vessel in making the design decisions which I am in the process of making.

All I am doing, Mr. Chairman, and Mr. Oberstar is alerting the committee that I think it certainly would be inappropriate just to meet a deadline, if we could do it better with a few months' delay.

I am not sure that is going to be necessary, but I would like very much at least to have the committee consider the possibility that we might ask for a delay for the reasons I have outlined.

Mr. BIAGGI. Would the gentleman yield?

Mr. OBERSTAR. Yes.

Mr. BIAGGI. I think we are all fairly understanding, and we know that delays are sometimes understandable. My concern is that we produce a vessel that will be able to do that job.

I do not mean marginally, but I mean do the job with a certain definite capability of doing the job.

We have had a great deal of testimony with relation to the icebreaker. There seems to be an indication or rather predisposition to have the Coast Guard do it on an in-house basis, and produce a design that will be—well, perhaps a little better than marginal, in the winter in the Great Lakes so that they can be converted to summer use.

Our concern is to make sure those waters stay open. Now, you said, working in combination. What does that mean? Working in combination with what other capabilities?

Admiral HAYES. For some years, Mr. Chairman, our icebreakers in the Great Lakes, both the *Mackinaw* and the occasional icebreaker which comes into the lakes to assist, have worked regularly in combination with the 110-foot icebreaking tugs quite successfully. I am just pointing out that the new 140-foot tug has substantially greater capability than the 110-foot tug.

Mr. BIAGGI. Well, we understand that, but again, we are spending a great deal of money. I am sure we have a common objective, but what the committee would like to know, with a very substantial degree of certainty, is that when an icebreaker is finally produced, will it be able to do the job?

Admiral HAYES. May I comment on that, Mr. Chairman?

Mr. BIAGGI. Yes.

Admiral HAYES. When the GAO completed their review of our design approach, I very carefully reviewed their analysis on what we were doing. I had some rather extensive sessions with our various staff people.

For what it is worth, it is my considered judgment that we are indeed on the right track, in developing this icebreaker, without getting into the question of who or what.

I feel that the approach that we are taking is a very sound one. As I look at the vessels that the Coast Guard has designed over recent years, and the jobs they are doing, I do not find any reason to have any lack of confidence in our people to do this job.

I think we can learn from others. We indeed have applied a lot of technology and knowledge that we have obtained from the Canadians and from others, and I honestly do believe we are on a sound approach here.

I feel that when we do replace the *Wind* class, we will do the job better.

Mr. BIAGGI. The question that comes to my mind is: Whether we should accept a capability that depends on other assets?

Admiral HAYES. I am not clear on the question, Mr. Chairman.

Mr. BIAGGI. You talk about a couple of vessels working together, whereas, if we get one of the larger type of icebreakers—let us say the Finnish one, its dimensions—the Finnish icebreakers do have the capacity to do it by themselves?

Admiral HAYES. No, sir; that is the point. No one ship by itself is going to be able to do this job and that is one of the things that we want to plan for. We are building a ship; which is going to last 30-some years. I see the Coast Guard being irresponsible if we do not consider all the information that is available to us in effecting this design, as long as it is not going to adversely affect the flow of commerce in the Great Lakes. I do not see that as an eventuality here.

Mr. BIAGGI. Thank you.

You have cleared up something in my mind.

"WESTWIND" REPLACEMENT DESIGN CHARACTERISTICS

Mr. OBERSTAR. Thank you, Mr. Chairman.

Those are many of the questions I wanted to raise myself.

I wonder if you could submit for the record at least some outline to whatever extent your internal procedures allow of the basic

statistics of this proposed new icebreaker, its horsepower, displacement, speed, size, crew, that kind of information.

Admiral HAYES. Well, we have done this before, of course, Mr. Oberstar. To give you an idea at this stage of the design of what we are looking at, we have very sophisticated computer programs that are evaluating a whole group of mixes. We are looking at 32 different combinations of draft, beam, horsepower, and other considerations. We then look at the cost benefit which each of those combinations would give us, along with the minimum capabilities that have to be considered in terms of the hull design. So I really believe that we are looking at it in a sophisticated manner.

Mr. OBERSTAR. I have no doubt.

If you would submit that information for the record.

Admiral HAYES. We can give you some broad outlines and ranges that we are looking at, because where you make one decision, you change something else.

[The information follows:]

DUAL DRAFT ICEBREAKER

At the present time we are considering a dual draft icebreaker design that is somewhat less than 300 feet in overall length. It will have a 20 to 22 foot draft both at drydocking and for operations. We prefer the beam to be 75 feet, but a range down to 64 feet could be acceptable. Fuel endurance of 60 days is desired with a possibility of allowing it to drop to 50 days. As for manning, we are planning to have a crew size less than the *Wind* class.

GREAT LAKES ICE CONDITIONS

Mr. OBERSTAR. I appreciate that very much. I just want to point out for the record, Mr. Chairman, colleagues on the committee, that with the severe winter weather we had on the Great Lakes this year, for the first time in 13 years on Lake Superior, all 33,000 square miles of it were frozen over and all five of the Great Lakes were frozen over.

With the help of the winter navigation program the Congress initiated 10 years ago, they were still able to make shipments of taconite to lower lake ports. The winter navigation program is extremely important to our Great Lakes industry and commerce and the availability of first-class icebreaking equipment is essential to future growth of commerce on the Great Lakes.

Thank you very much, Admiral.

Mr. BIAGGI. Ms. Mikulski?

"CUYAHOGA"

Ms. MIKULSKI. Thank you.

Admiral, on Tuesday of this coming week, you will be having another hearing on the outcome of the *Cuyahoga* in its investigation. I do not want to dwell too much on this today, but what I am interested in is, does this proposed budget have funds in it to take some of the corrective actions I know you and the Secretary of Transportation are considering; a specific example would be that I understand that three training cutters, are in conditions that are really not up to snuff or standards that many would consider to be necessary.

Is there money in there to make the kinds of corrective recommendations that—the personnel that is being advised?

Admiral HAYES. Ms. Mikulski, the present budget that the committee has does not contain anything specifically related to the tragic loss of the *Cuyahoga*. We are already taking certain actions as a result of the study which was conducted at the direction of the Secretary of Transportation.

Ultimately, these actions will require funding and personnel.

Ms. MIKULSKI. So then what is the plan of the Coast Guard, then, to take a look at the recommendations and then see how you want to proceed and then that would occur in next year's budget?

Admiral HAYES. We are currently evaluating both cost and personnel implications. We would hope then to provide that information to the Secretary of Transportation, at which time the Office of the Secretary would then take whatever action may be appropriate.

PORTSMOUTH COMMUNITY SUPPORT SERVICES BUILDING

Ms. MIKULSKI. Well, OK. We can talk more about that on Tuesday.

Another question that I had was that you are saying that in Portsmouth, Va., that they are going to construct a community support services building.

What is a community support service building?

Admiral HAYES. As so often happens, Ms. Mikulski, when we build a new support activity for our ships, we sometimes, because of our priority determinations, do not manage to include the support and recreational facilities for our people. This particular building is going to provide much greater recreation and support capability for the people located there.

Ms. MIKULSKI. Admiral, is this a bureaucratic term for a gym or a rec center? When we talk about community support—I do not think you are going to have cardiac resuscitation classes.

Mr. STUDDS. Ask him if you have a natatorium.

Ms. MIKULSKI. Pardon me?

Mr. STUDDS. A natatorium. That is a swimming pool.

Ms. MIKULSKI. So it is \$2 million for a gym, recreation center?

Admiral HAYES. It includes arts and crafts rooms, physical recreation, and retail sales and service area.

SEARCH AND RESCUE BOATS

Ms. MIKULSKI. I see.

Now, one of the things that Mr. Studds raised was the discussion of closing some of the stations related to search and rescue. But yet at the same time we are talking about buying more boats for that.

You are talking about buying 30 additional SAR boats. If we are going to be reducing some of our activity in that area, why would you need more equipment?

Admiral HAYES. These are replacement programs, Ms. Mikulski.

If you are talking about the 41-footer program completion, we are talking about replacing the old 40-foot boat that has been in the Coast Guard for years and years.

If you are talking about the 30-foot rescue boat—

Ms. MIKULSKI. The information that I have, it says purchase of 35 additional, 30- and 41-foot SAR boats.

Admiral HAYES. I described the 41-foot boats. Those are either replacements or the final stages of the program which will provide a few 41 footers for new stations that have been constructed since that program began.

The 30-foot boat will primarily replace the old 25-foot motor surf boats. So basically what you are talking about here are two replacement programs.

The 30 footer in particular gives us a tremendous increase in capability for operations in and near the surf that the 40-foot boat is too slow for. It takes too long to get there.

Ms. MIKULSKI. Well, thank you, Mr. Chairman. I have no other questions.

I would like to join with you, though, in really wanting to further analyze this issue of differences in pay, benefits and so on, based on marital status. That would have a direct bearing on recruitment and I think both Mr. Studds and I can attest that as to marital status, there is no corollary between that and performance.

Mr. STUDDS. It certainly ought not to be inclined to Congress.

Ms. MIKULSKI. Then I look forward to our meeting on Tuesday.

I would like to say that before we get into the *Cuyahoga* hearing, I think I clearly understand when I asked for that investigation, it was not meant to be a witch hunt of the Coast Guard but that we could learn from that terrible mistake and learn from it in the future; and I look forward to hearing further from you on Tuesday.

Admiral HAYES. Certainly. We agree with you on that.

Mr. BIAGGI. Mr. Treen, who is ranking minority member and a very important member, has cooperated wonderfully with the majority to the point that there has not been a partisan attitude displayed; his one function is to proceed in unity toward the objective of the Coast Guard and the committee; but he has not been able to be here today, but he does have some questions that he would like answers to and counsel, Mr. Midboe, would like to ask them.

TITLE II—OUTER CONTINENTAL SHELF LANDS ACT

Mr. MIDBOE. I would just ask two of the questions and submit the rest, if you will, for the record.

One is addressed under title II of the Outer Continental Shelf Lands Act Amendments of 1978.

Just so I understand it correctly, you have not asked for any additional personnel or resources for enforcement under that section?

Admiral HAYES. Not in the budget itself.

The budget does reflect a reprogramming. Title III, at any rate, is taken care of but title II is not.

Mr. MIDBOE. Did you ask for a supplemental for that last year?

Admiral HAYES. No, we did not last year. We are working right now on that analysis to which I referred, which should be in the hands of the department very shortly.

Mr. MIDBOE. Are you anticipating asking for a supplemental after the analysis is completed?

Admiral HAYES. The answer is yes; we are.

Mr. MIDBOE. The other question relates to the \$1 million that you are asking for the installation of a microwave radar link in Louisiana.

Last year the Coast Guard asked for \$970,000 for this microwave link, and it was not approved. Mr. Treen is again trying to determine the need for this. A Captain Gardner of Alter Co. has furnished the Congressman with analyses that he did of the casualty statistics that the Coast Guard used to justify this microwave radar link.

Captain Gardner states that 16 out of 19 of the 29 casualties the Coast Guard states could have been prevented by the radar unit, could not have been prevented.

What disturbs the Congressman is that apparently the GAO has also come to this conclusion in a study that they have recently concluded. This study has also been submitted to and commented on by the Coast Guard.

I was wondering if you would give a few comments on that?

Admiral HAYES. I suppose that we do not always agree with other people's analyses and studies.

With respect to the good Captain's analysis, I have seen our Coast Guard's staff review of that. We just simply do not agree fully with his conclusions. We feel that he has overlooked a number of capabilities that the vessel traffic center and its services provide.

An example of the kind of thing that we feel is overlooked is that if conditions in a particular port area or channel are such that it would be inadvisable for a vessel to get underway from an anchorage, particularly if it might, in the process of doing that, find itself in a critical situation, the vessel traffic center might very well forbid that vessel to get underway. That would in fact prevent a casualty from occurring.

A second example of what we felt he had overlooked is that the height of the radar is substantially greater than he was anticipating. I guess, looking at the GAO study, this is one that we just completely disagree with and it has taken a substantial amount of time, frankly, to refute a lot of what is in that study.

We find, for example, that it contradicts the 1975 report.

Also, except in the New Orleans area, voluntary participation in our vessel traffic services has been about 95 percent. So our experience is quite contrary to a lot of the statements in the GAO report.

Mr. MIDBOE. Could you submit to the committee any formal analysis of either or both studies done by the Coast Guard?

Admiral HAYES. We had a complete analysis which we have provided the GAO. We will be glad to see that the committee has a copy, certainly.

[The following was received for the record:]

[The following is an excerpt from the Coast Guard response to chapter 3 of the GAO draft report entitled, "Improvements Needed in the Coast Guard's Short-Range Marine Aids to Navigation."]

VESSEL TRAFFIC SERVICES

VESSEL TRAFFIC MANAGEMENT SYSTEMS HAVE NOT BEEN PROPERLY PLANNED OR
MANAGED

The draft report does not address the vessel traffic management issue within the terms of reference and definitions that are currently in use in this country. This has

resulted in some confusion. For example, the commonly accepted terms vessel traffic management and vessel traffic service are expressed 17 different ways, interchangeably in the draft. Both terms have a precise meaning and cannot be used interchangeably without, at times, reversing the effect of a statement. A fundamental understanding of the concept of vessel traffic management and its elements is essential to evaluating the draft report and the Department's response. A lack of comprehension of these terms was apparent during the course of the review. It is also evident throughout the draft report and accounts for the fact that this report claims consistency with the 1975 report while, in fact, it is just the opposite. In quoting the recommendations of the 1975 report, this report makes several substitutions of terms, reversing the meaning of the 1975 recommendations so as to appear consistent. There is no room for retroactive interpretation of the 1975 GAO position. Both the authors of that report and its respondents were in agreement as to what the report meant.

The 1975 report said that Coast Guard vessel traffic services were justified in New York, New Orleans and Houston-Galveston, including television surveillance equipment in parts of the New York VTS. The 1975 report cited the expected costs of construction of these systems—in the millions of dollars. It is inconceivable that the GAO in 1975 was approving only passive vessel traffic measures in these three ports—as the draft report now maintains.

The 1975 report said that the purchase of surveillance equipments in Puget Sound, New York, New Orleans and Houston-Galveston vessel traffic services should be deferred and that the associated costs should be reapplied to the construction of vessel traffic services in Chesapeake Bay, Delaware Bay and five sections of the Gulf Intracoastal Waterway. The report specifically included the costs of the Coast Guard communications equipments to be provided for these seven vessel traffic services. Passive measures do not require communications. By definition, the GAO was not referring to passive vessel traffic management measures, as the draft report now maintains.

The GAO in 1975 was saying the Coast Guard was not doing enough, in the way of establishing VTSs. The GAO staff report in 1979 says it was poor management on the Coast Guard's part to do anything at all. The Department of Transportation strongly objects to this categorization; considers the rationale behind it to be without merit, and urges that it be deleted from the Comptroller General's final report. Additionally, the draft report should be redrafted to eliminate terms not consistent with the vessel traffic management terms of reference and definitions contained in Appendix A to this response.

The review upon which this draft report is based is limited in scope. It was confined to three ports—New York, New Orleans and Houston-Galveston. Yet, it reaches findings and conclusions that implicitly apply to other areas where the Coast Guard has established vessel traffic services. For example, the draft report states at one point: "At three Coast Guard Vessel Traffic Service (VTS) system sites, Coast Guard estimates of the impact these systems will have on the number of yearly accidents is overstated for two ports and probably others." At another point the draft report states: "The Coast Guard has used a phased purchase approach for implementing each VTS. * * * Lacking mariner cooperation, the Coast Guard's method of phasing in VTS systems has been expensive and ineffective." Elsewhere in this response it is proved that both statements are, in fact, wrong as they apply to the three ports subject to the review. With respect to the other areas where the Coast Guard is operating vessel traffic services, the statements are also wrong. The Department feels that the draft report should confine its judgments and evaluations to those areas where it is competent, by virtue of having firsthand knowledge, to do so.

EFFECTIVENESS OF VTS HAMPERED BY PHASED APPROACH AND LACK OF MARINER COOPERATION

The GAO states, "The Coast Guard has used a phased purchase approach for implementing each VTS", and, "Lacking mariner cooperation, the Coast Guard's method of phasing in VTS systems has been expensive and ineffective." In 1975 the Comptroller General recommended that the Coast Guard, "Adhere to a strict phased approach by first operating and evaluating the effectiveness of basic systems before adding more sophisticated elements". Reference to the Department's response to the 1975 GAO report reveals that the Coast Guard's policy was to avoid a phased approach in the acquisition of surveillance components judged to be essential to the effective operation of a VTS in its initial implementation. The record shows that, subsequent to the publication of the Comptroller General's report in 1975, the Congress rejected the President's request for funding for surveillance components in

the New Orleans VTS. Consequently, the phasing of surveillance in New Orleans VTS was dictated by budgeting constraints and was not "the Coast Guard's method".

Recognizing that the Coast Guard was indeed correct in its assessment that surveillance was essential to the operation of New Orleans VTS, the Congress, in Fiscal Year 1978, appropriated \$1.162 million for procurement of a television surveillance system for the Algiers area of the Mississippi River, and added \$1.0 million to the President's budget request, for the procurement of a radar surveillance system in the Pilottown area. Ironically, \$927 thousand, identified for the microwave relay, linking the Pilottown radar with the vessel traffic center in New Orleans, was eliminated by Congress from the Fiscal Year 1979 budget, pending further resolution of the issue by the GAO. The Department strongly supports the GAO's draft recommendation that a phased approach should be avoided and hopes that it will be a deciding factor when Congress reviews the President's Fiscal Year 1980 request for the microwave relay funds.

The draft report uses VTS Houston-Galveston as an example of where very little, if any, mariner criticism was experienced, as this system was not phased in over a long period. By the same standards, vessel traffic services in the other six ports and waterways (New York, San Francisco, Puget Sound, Valdez, Berwick Bay and Louisville) were not phased in. Thus, the main contention of this section of the draft report is totally unsubstantiated. On the contrary, the Coast Guard can point to a consistent practice of adhering to its policy cited in the Department's 1975 response to the Comptroller General.

The issue of mariner cooperation, also covered in this section of the draft report, is not amenable to simple quantification. The experience of the United States government, in implementing vessel traffic management measures in this country, is not unique. The records of international symposia on the subject contain many references to the initial opposition expressed by prospective users of planned vessel traffic services, and the subsequent near unanimous support achieved once the systems were operational, tried and proved. The draft report, however, does not reflect a balanced view from this perspective. It cites the vocal and highly visible opposition of those few, who may never admit to a change in position—parties who are involved as plaintiffs in an unsuccessful Federal Court suit against the government. While less vocal, and certainly less visible, there are a significant number of mariners whose testimony in support of vessel traffic services before Congressional committees is a matter of record. The absence of reference to this opposite view seriously impairs the credibility of the draft report. If the level of voluntary participation by users of a vessel traffic service is any relative measure of their degree of support, then it should be mentioned that it exceeds 95 percent in every voluntary VTS in the United States to date, with the exception of VTS New Orleans. In New Orleans, the level of voluntary participation exceeds 60 percent at present. Considering that this VTS has been in operation for just over a year, and that its effectiveness has been impaired by a lack of budgetary support for surveillance components, the acceptance it has achieved indicates that the majority of the New Orleans marine community does, in fact, support the VTS.

IMPLEMENTATION OF SIMPLER LESS BURDENSOME VTS ALTERNATIVES HAS BEEN LIMITED

During the 22 September 1971 Senate Commerce Committee Hearings on S. 2074, an early version of the Ports and Waterways Safety Act of 1972, Senator Ernest F. Hollings, in his opening statement, said: "The second approach of S. 2074 applies not only to tankers but to all vessels and structures on the navigable waters. It would bring vessel traffic control into the 20th century by authorizing the establishment of traffic services and systems and the control of traffic in congested waters." The mandate of the Congress, as reflected in the whole legislative history of the Act, was clear with respect to vessel traffic control: the United States should move into the 20th Century.

In February 1972, the National Transportation Safety Board published a special study titled "Collisions Within the Navigable Waters of the United States—Consideration of Alternative Preventive Measures." The study concluded that the United States had lagged behind other countries in developing vessel traffic control system. It recommended that the Congress enact the Ports and Waterways Safety Act of 1972 and "authorize and appropriate sufficient funds and manpower for the Coast Guard to develop mandatory traffic control systems where appropriate."

In January 1975, the Comptroller General of the United States criticized the Coast Guard for limiting its VTS plans to six ports—recommending that seven additional VTSs be constructed.

In August 1978, the Ministry of Transport of Japan published a survey of world-wide marine traffic management systems. It cited the existence of systems in 250 ports in the world and estimated that 260 land-based surveillance radars are in use.

In January 1979, the staff of the General Accounting Office reports that the Coast Guard appears to have ignored evidence that less costly alternatives are as effective as vessel traffic services.

The day has past when this last position can be credibly supported in New York, New Orleans and Houston. For example, simpler systems were evaluated in the early stages of the New York VTS planning. Some of these simpler approaches were included in the final arrangements; others were discarded. The systems evaluated included Traffic Separation Schemes(s) (TSS), mandatory security broadcast system, one-way traffic in selected areas, speed limits, draft limitations, requiring tugs for certain vessels and conditions, and movement restrictions based on tidal or weather conditions.

In commenting on this GAO finding, Commander, Third Coast Guard District provided the following analysis:

a. TSS—Traffic separation schemes are flatly unworkable in New York. There is not enough room in the navigable channels for the separation zone required, or to divide the channel into two effectively separate channels. Even Ambrose Channel, the main entrance channel and largest channel in the harbor (i.e., 200 feet wide), is not wide enough to permit establishment of a TSS for the size of vessels arriving and departing this port.

b. The mandatory security broadcast system would require participating vessels (i.e. those subject to the Vessel Bridge-to-Bridge Radiotelephone Regulations) to make a security broadcast on channel 13 at or when approaching specifically designated points in the harbor to announce: vessel name, if towing—nature of tow, present location, direction of movement, and name of next waterway through which the vessel will pass. This was not adopted because:

(1) A change from the current voluntary use to a mandatory system would totally saturate channel 13 (bridge-to-bridge frequency). Channel 13 is already being used 35 percent of the time during periods of good visibility, and over 90 percent of the time during reduced visibility. In spite of this volume of traffic, it should be noted, we estimate that not more than 25 percent of the recommended security calls are currently being made during periods of good visibility. That is to say, under the voluntary system, only a portion of those who should be using this system are using it; and, if all who should be using it did so, the system could not handle the volume.

(2) There is no effective way to enforce such a requirement without electronic surveillance. Failure to comply with a mandatory system can be a deliberate or inadvertent act. Either way, the potential for disaster exists, and system credibility is suspect without an effective enforcement capability. Our legal staff, at the time this was considered, in 1975, expressed reservations about publishing a regulation that we could not enforce, and the local mariners were very concerned about that as well.

(3) Security calls can be missed by participating vessels if on another frequency talking to a dispatcher or other vessel; or because of equipment failure. The VTS will ensure that a vessel gets information intended for it, or all in its vicinity alerted to its presence. In contrast, a security call made "in the blind", and not heard by the vessel "around the corner", is lost forever.

c. One-way traffic was discussed in two areas with the New York Harbor VTS Advisory Committee: (1) the Kills, (the narrow waterways to the north and to the west of Staten Island), and (2) around Governors Island in the Upper Bay. The one-way Kills traffic idea was adamantly rejected by the Advisory Committee for economic reasons; because it would add hours to vessel transit times and is unnecessary if adequate surveillance is available. One-way traffic around Governors Island was also rejected. The proposal was made that Buttermilk Channel (east of Governors Island) be made one-way north—or east-bound, and the Battery Channel (between Manhattan and Governors Island) be made one-way south—or west-bound. The New York pilots had strong reservations because of the requirement to come south in Buttermilk Channel with vessels heading for the Brooklyn piers under certain tidal conditions. Like all competent mariners, they prefer to stem the current when maneuvering. The other objection was that we would be forcing the Staten Island and Governors Island ferries into crossing situations on nearly every trip. Existing routes do not intersect. Causing crossing situations with ferries, where none currently exist, introduces an unacceptable potential for collision.

d. Speed and draft limits were rejected after very extensive discussion and study. The speed limit was rejected because it would be too difficult to enforce in a port as complex as New York, and may introduce factors which will be too restrictive to be safe. The draft limit was rejected because we could not show that it would contrib-

ute enough to safety to offset the severe economic impact on the maritime industry. An exceptionally complete discussion of this opinion was presented to the Congress by Captain K. L. Moser in 1975.

e. Requiring tugs under certain conditions would have little or no impact on overall harbor safety. Virtually all vessels take tugs at present in the Kills and East River, which are the most restricted areas in the harbor.

Movement restrictions based on tide, current, or weather conditions were adopted, in part, when the regulation was issued requiring vessels of certain large size to anchor only on the ebb tide, so that they would not have to turn around after entering the anchorage.

PROBABLE OVERSTATEMENTS OF VTS IMPACT IN PREVENTING MARINE ACCIDENTS

We reject the GAO's finding. To substantiate this finding, the GAO reviewed casualty reports from the ports of New York and New Orleans. First, the GAO implies that the cited New York casualty reports were in some way used by the Coast Guard to justify the New York VTS. This is not correct. Second, in rejecting 22 New York and 19 New Orleans casualties as non-preventable, the GAO implies manipulation of the facts by the Coast Guard in favor of preventability. This is also incorrect.

The GAO has confused the purposes of the Vessel Traffic Systems Issue Study, the Analysis of Port Needs, and the New York VTS local accident analysis. The object of the Issue Study was to investigate the capability of the Harbor Advisory Radar Service to meet the present and future navigational requirements of U.S. ports in terms of collision avoidance. The Analysis of Port Needs studied accident reductions and was the general basis upon which Congress and the Administration funded and actually built the VTS's now in existence. The analysis cited by GAO was conducted completely separate from the Analysis of Port Needs, and was done strictly for local use. It was not used to justify the New York VTS. The Analysis of Port Needs provided that justification.

The Coast Guard takes a conservative approach to evaluation of casualty reports. A thorough understanding of the capabilities of a VTS is required, as well as an understanding of how accidents occur. While the New York cases cited by GAO do not represent the conservative evaluation procedures used for justification, upon review, 11 of the 22 evaluated by the GAO as non-preventable are indeed preventable using Coast Guard criteria. An example is the June 1977 case used by the GAO to illustrate the Coast Guard's exaggerated preventability standards. The comment that "VTS systems cannot ensure anchors will hold," is indicative of a fundamental lack of understanding of the role of a VTS in the management of anchorages. A VTS can control arrivals and departures, assign exact anchorage. A VTS can control arrivals and departures, assign exact anchorage locations to provide sufficient swinging room, and can monitor each anchored vessel for dragging. While it cannot "ensure anchors will hold," it can provide a safer anchorage.

In conjunction with this discussion it is important to not that an additional and equal important benefit of the radar and low light level television equipment in the VTS is that it greatly extends Coast Guard oversight of the port and its tributaries. With it, the Captain of the Port can monitor vessel activity, witness the practices of industry, and acquire data to develop more effective regulations. This is absolutely necessary in order to improve the safety of port operations. It will permit us to measure, in real time, the effectiveness of regulations that may be developed. There are an average of 60 hazardous material movements in bulk by water daily in this port. The sudden release by accident of liquefied petroleum, methyl-bromide, or vinyl-chloride can have catastrophic consequences for the Port of New York and the thousands of people who live in proximity to its waterways. Careful monitoring of surveillance information on a 24-hour basis will permit the Captain of the Port to limit or proscribe movements when weather, congestion, or other unfavorable conditions would make the risk excessive. This ancillary benefit of our Vessel Traffic Service alone justifies the electronic surveillance equipment as an enhancement of our Port Safety Program.

GAO's analysis of the New Orleans casualty reports contains a similar lack of understanding. In the early planning of the New Orleans VTS, it was recognized that surveillance would be required in at least some parts of the river. Casualty reports clearly showed that two sections of the lower Mississippi River have a higher accident rate than any others. Because of the 1975 GAO report, however funding for radar surveillance of one of these sections, the Pilottown area near the Head-of-Passes, was withheld. As part of the re-justification for this radar in Fiscal Year 1978, the Coast Guard evaluated vessel casualty reports for the years 1972 through 1975 for preventability. The Coast Guard considers a casualty preventable by VTS if one or more of the contributing causes or adverse circumstances is

changeable through the operation of a VTS, the extent that a different situation would have existed—a situation in which the casualty was no longer inevitable. The Coast Guard did not maintain that any one of the casualties would not have happened if a VTS had been operating, only that all may not have happened. The Coast Guard did not assign a probability of prevention to each casualty. A conservative probability of 50 percent was effectively applied overall, in that the total estimated monetary damages were halved in arriving at the expected benefits figure used within the Administration to justify the radar project.

The analysis prepared by the industry spokesman and concurred in by the GAO report, was seriously flawed by several errors in fact, regardless of the criteria applied in judging preventability. The spokesman understood the proposed radar to be at ground level. Specifications call for the radar antenna to be located 150 feet above ground level. He understood the range to be 10 miles. It will be 24. He described the resolution of the radar as less than that of shipboard radar. It will be several times greater. His rationale in this analysis indicates that he is not familiar with the various vessel traffic management procedures and capabilities, what a VTS can do in the way of ameliorating hazardous circumstances, and how a harbor surveillance radar can be used. The radar can provide precise locations of all vessels and can assist a vessel which has lost its radar capability. It can monitor South and Southwest Passes for towing violations, and can provide the surveillance necessary for enforcing one-way or shutdown traffic during extreme conditions such as those of high water and fog together. Appendix B is a case-by-case comparison of the industry spokesman's comments on the New Orleans cases along with those of the Coast Guard.

APPENDIX B.—CASE-BY-CASE ANALYSIS OF 18 MARINE CASUALTIES IN PILOTTOWN AREA, MISSISSIPPI RIVER

The most important function of a VTS is providing advance information to vessels on hazards ahead and vessels to be encountered. The traffic center therefore requires the position and intended movement of each vessel participating in the system. Consequently, an efficient means of communications between the vessel traffic center and participating vessels is an essential requirement. VHF-FM radio-telephone is the method used to exchange this information.

The degree of effectiveness of a vessel traffic service is proportionate to the accuracy of the information it receives and processes. In some sections of each VTS area, where high traffic density and complex traffic route patterns create especially high hazard levels, the information must be very precise in order to be usable. The accuracy of position information deteriorates with time. Dead reckoning (DR) is the process of extrapolating the present or future location of a vessel from a previously known position, by applying its intended route and speed of advance along that route. Several factors adversely affect the accuracy of DR information, particularly the inability of vessels to precisely estimate their speed. Consequently, periodic position reporting is used to update the situation display in the traffic center. There is a practical limit to the frequency, and thus the accuracy, of this updating process, governed primarily by the necessity to avoid overloading the radio communications net and burdening vessel operators. Where the practical accuracy of DR information is not sufficient to ensure effective VTS operation, some means of surveillance must be used.

Surveillance can be categorized as passive or active. Passive surveillance systems require no electronic equipment aboard the vessel. They rely only on shore-based sensors, such as radar or television. An active surveillance system includes the participation of the vessel, which must carry and use some form of transmitting device that is electronically tracked by a shorebased sensor. Passive surveillance systems have two advantages over active surveillance systems: they avoid costs to user vessels and they detect vessels that may not have, for any reason, an operative electronic device required by the active system.

It was obvious during the planning of VTS New Orleans that surveillance of the entire 357 mile VTS area would not be cost effective. Analysis of casualties and other considerations identified the city of New Orleans and the Head of Passes in the lower Mississippi River as two locations in the system that had high casualty levels and therefore needed surveillance.

The decision was made to use closed circuit television (CCTV) to cover the narrow, winding river in the Port of New Orleans, since several radars would have been required in this channel environment to achieve similar results. CCTV can provide immediate target identification. Background clutter, buildings, and adjacent land masses have no significant effect on television but do affect radar.

Radar was chosen for the Pilottown area because of its ability to penetrate low visibility and bad weather. It can give VTS New Orleans the capability to coordi-

nate river traffic through a dangerous area; in particular, the high resolution radar (24 mile range) can provide real time information to VTS New Orleans on the following sections of the lower Mississippi River:

- a. Head of passes: The confluence of the major passes to the Mississippi River;
- b. The major entrances to the Mississippi River;
- c. Pilottown anchorage: The only general anchorage below New Orleans; and
- d. Cubits gap and the jump: Entrances to the lower Mississippi River used extensively by commercial fishing vessels and small boats working for the off-shore oil industry.

In these areas the high water period corresponds with the foggy season (31 days annually). The number of vessel transits here averages 472 each day. The fog/high water combination makes the potential for accidents high in a normal year, but it is accentuated during periods as the winter of 1973-74 when the flood stage of the Mississippi River reached exceptionally high levels. During prolonged periods of fog, traffic must come to a halt. There is often a rapid buildup of vessels in the only anchorage in this area. There is no enforceable system for clearing the resulting congestion in an orderly manner.

To evaluate the effect of a VTS radar, 179 reports of vessel collisions, ramblings and groundings for the years 1972 through 1975 in the area of potential radar coverage were analyzed. Of these, 18 casualties were judged preventable had radar surveillance been available. These 18 casualties resulted in 16 deaths and involved 41 vessels.

The Coast Guard's analysis has been disputed by a representative of a group of towboat operators. The cases from New Orleans cited by GAO as indicative of Coast Guard overstatement of impact appear below with the comments of the towboat operators representative and those of the Coast Guard.

Case No. 31864—October 5, 1972

Subject: M/V *Lago Maihue* collision in fog with St. Bernard Waterworks, Mile 81.5.

This case is not applicable, since it occurred at 12-mile point outside of the proposed coverage of Pilottown radar.

Coast Guard's comment: The reviewer was informed that his case was not included in our analysis right after the package was mailed to him.

Case No. 32145—January 7, 1973

Subject: *Dixie Courage* collision with tank barge *Wolverine* in tow of M/V *Voyager*.

Visibility: 200 ft.

Total Damage: \$18,000.

Reviewer's comment: After reviewing this case I find the casualty unpreventable by installation of radar at the Head of Passes. The stated cause of the casualty was the failure of the M/V *Dixie Courage* to contract on radio the M/V *Voyager* prior to performing a "flopping the barge" procedure. Attached statement to the CG-2692 supplied by the M/V *Voyager* states the following: "the *Dixie Courage* commence flopping the barge before calling the M/V *Voyager*. The M/V *Voyager* received notice by radio of this operation which was in progress, she immediately went full astern." The collision occurred shortly thereafter.

It becomes clear from the documentation of this casualty that the cause of this accident occurred as a result of the failure of the operator of the M/V *Dixie Courage* to make radiotelephone contact with the M/V *Voyager* prior to topping around. Further cause, as quoted in the U.S. Coast Guard review was "the failure of the operator of the M/V *Voyager* to proceed at a moderate speed in fog in accordance with 33 USC 192."

It is highly doubtful that high resolution radar could have foreseen the movement of the *Dixie Courage* in topping one 172-foot barge, topping around in time to notify the M/V *Voyager* of the movement. It is my belief in accordance with the information contained in the file that both vessels were aware of the other's presence and there is no indication of radar not operating on either craft.

It also should be pointed out that no whistle signals were given by the M/V *Dixie Courage*, which could have also been a contributing factor not preventable by land radar.

Coast Guard's comment: Radar enables VTC to keep a precise, up to date plot of situations and passes this information to vessels involved. The reviewer fails to acknowledge that a traffic summary, verified by radar, supplied to the M/V *Voyager* may have alerted her operator to the presence of the *Dixie Courage*, or that the *Dixie Courage* might not have tried barge shifting if she had been in contact with the VTS and been warned of the presence of the M/V *Voyager*. Radar surveillance

in the area may also influence the speed of vessels, and allow the VTC to control it if necessary.

Case No. 32191—December 1972

Subject: Grounding of the M/V *Joseph O.*

No monetary damage.

Visibility: 50 ft.

Reviewer's comment: Location of Casualty—In South Pass Mississippi River at Jetty—M/V *Joseph O.* Since the jetties are located 13.5 miles from Head of Passes at 17.5 miles from the proposed location of ground radar, this would plant this casualty outside of the proposed coverage of the high resolution radar. Furthermore, this vessel is a small crew boat which would be exempt from participation in the existing system.

It would be fruitless to think that if ground radar was in operation in the area in which this casualty occurred, that it could have prevented the incident. As stated in the report to the Coast Guard, this was the operator's first run on a crew boat in this area, and ran aground as a result of that lack of knowledge. It also was stated in the report that his radar was in operation and even though an additional comment said it was operating poorly, it is interesting to note that a passenger on board the vessel familiar with the route realized that the pilot had made a mistake in navigating and asked that he return to the Pass. Apparently that individual was using the existing radar and other aids to make such an assumption. It then becomes very clear that the cause of this casualty was the failure of the operator to know the geographic area in which he was operating.

Coast Guard's comment: The reviewer is in error regarding the range of the VTS radar. It is 24 miles. In this case, radar would have given the VTC the capability to provide emergency radar guidance. The reviewer asserts, among other things, that the passenger was able to use the *Joseph O.*'s radar and determine that they were lost and should return to South Pass. This is nonsequitur. He obviously knew they were lost and that their radar was no help.

Case No. 32226—January 20, 1973

Subject: M/V *Dantzler Ocean Springs* collision with M/V *Lois Cook.*

Visibility: 150 ft.

Total damage: \$3,000.

Reviewer's comments: This collision I would consider as not preventable by ground radar, since the cause, as reported by the investigating officer, was a failure of both vessels to sound proper whistle signals; and had bridge-to-bridge radiotelephone contact been made, passing arrangements most probably would have been made without incident. Both vessels are of a category that would have made them participants of a VTS; however, what assurance would one have that the M/V *Lois Cook* would have been participating, since he had totally disregarded the requirement to transmit and receive on the designated bridge-to-bridge frequency? It is conceivable that communications problems being experienced today were of sufficient level in 1973 to have been a contributing factor in the failure of the M/V *Lois Cook* to communicate on bridge-to-bridge frequency. Regardless, the level of sophistication needed in a VTS to have prevented this casualty, would have been at the very basic level of bridge-to-bridge communication, not the sophisticated plateau of high resolution radar.

Coast Guard's comment: Radar enables VTC to keep a precise up to date plot of each vessel. VTS is also cognizant of the identify and intentions of each vessel. Sufficient information is passed to vessel operators in time to reach a mutual agreement of safe passage.

The Reviewer feels that use of bridge-to-bridge radio would have prevented this accident. That's true. However, it was not used because the *Lois Cook* did not know (he had no radar) the *Dantzler* was near him. The *Dantzler* had radar and saw the *Lois Cook* on it, but probably assumed the *Lois Cook* saw him. A VTS traffic summary, verified by radar, would have alerted both vessels.

Case No. 31482—December 1972

Subject: M/V *Corlee* collision with the A. L. *Theriot*

Visibility: 30 ft.

Total Damage: \$12,000.

Reviewer's comment.—I will label this casualty preventable with some assumptions. The M/V *Corlee* apparently, after looking in his radar and seeing nothing, pulled into the path of the A. L. *Theriot*, who was northbound on the Mississippi River. The accident occurred near Austreka, Louisiana.

Had the captain of the M/V *Corlee* used the radiotelephone frequency designated for bridge-to-bridge properly, the accident could have been prevented. This then

would have placed the solution to this casualty at a basic level of bridge-to-bridge. There is adequate evidence, however, that since the *Theriot* and its tow were so close to the M/V *Corlee* that he could not be picked up on his radar, that VTS through the use of ground level radar could have informed the M/V *Corlee* that the *Theriot* was indeed nearby.

Coast Guard's comment: This accident is preventable for the same reason as Case No. 32226 above. Radar enables VTC to keep a precise up-to-date plot of each vessel. Information would have been passed to the vessel operators in sufficient time to help prevent this casualty.

Case No. 43272—March 6, 1974

Subject: Collision of M/V *Les Levy* with the M/V *Domar Commander*.

Visibility: 125 ft.

Total Damage: \$156,000.

Reviewer's comment: Although the master's statement on the *Domar Commander* is omitted from our copy of the casualty, the reviewing officer stated that the cause of the casualty was unknown. I do not believe this particular casualty, based upon the information given, could have been prevented by ground level radar. Apparently, both vessels' radars were working and the master of the *Les Levy* stated he had observed the other vessel for some length of time prior to the collision. He also stated, "Suddenly, for no apparent reason and without warning, barge and tug veered into starboard side of the *Les Levy*." It simply appears this collision occurred between two vessels who had radars operating and knew the whereabouts of each other, and result from pilot error.

Coast Guard's comment: The analysis by the reviewer did not give the reviewing officer's full statement, which was "The proximate cause of the casualty is unknown. Most probable cause is failure to proceed with caution in fog." Pilot error may have been avoided if traffic information, verified by radar, was being passed to the vessels involved. The VTS could have influenced the situation by encouraging or requiring lower speeds in fog or by requiring towing vessels to hold on the bank until traffic and fog conditions improve.

Case No. 41911—December 30, 1973

Subject: Barge *Thelma Collins* in tow of the *Ellena Hicks* struck the M/V *Nissan Maru*.

Visibility: 100 yds.

Total Damage: \$200,000.

Reviewer's comment: There is absolutely no way surface radar could have prohibited this accident, since both vessels acknowledge the radars were working and they constantly could see the other vessel. The *Maru* claimed he established contact by radio. The *Thelma Collins* claimed he did not. This accident, therefore, was obviously caused by a breakdown in communication at the bridge-to-bridge level and perhaps pilot error. Since both vessels knew of the approaching vessel and tracked each other constantly on radar, surface radar from shore would have been of no assistance.

Coast Guard's comment: The VTS would have advise both vessels of the presence of each other and of the dredge in sufficient time to allow each to time its passing of the dredge. Furthermore, the VTS had the additional option to control traffic in some way due to the high water and low visibility conditions in the area.

Case No. 41986—January 23, 1974

Subject: M/V *Theanto* A. S. grounded at South Pass.

Visibility: "Heavy Fog" at night.

No monetary damage.

Reviewer's comment: The *Theanto* was traveling in South Pass in heavy fog and grounded to the northwest of South Pass. The master indicated the radar was not working properly. I do not believe this casualty could have been prevented by surface radar, since there was no surprise meeting that could have been predicted, but simply occurred as a result of failure of the master to properly use all of the available navigational information available. That is substantiated in the investigating officer's report dated March 26, 1974.

It is impractical for a ground service radar with a 10-mile radius to transmit information dealing with precise navigation. Therefore, the instrumentation aboard the ship would have been much more accurate than any transmitted from VTC via information gathered from ground service radar.

Coast Guard's comment: The reviewer's analysis is in error regarding the range of the VTS radar. Radar would give the VTC the capability to give emergency guidance.

Case No. 42005—May 1973

Subject: SS *Baumare* grounded. Collision with the M/V *Heuma*.

Visibility: Clear. Strong current.

Total Damages: \$11,000.

Reviewer's comments: Radar on both vessels were working and this collision occurred near Pilottown on the Mississippi River at Head of Passes. Ground surface radar in a VTS could not have possibly prevented this accident, since it occurred on a clear day with good visibility and vessels were not only in radar contact, but visual contact with one another. It was no surprise meeting and according to the reports it appears the accident in part was caused by an initial grounding of the SS *Baumare*, who was heavily loaded, in a shallow pass. In accordance with the investigating officer's report, he says and I quote, "The approximate cause of the casualty was error in judgment on the part of the operators of both vessels for proceeding into a hazardous section of the channel prior to reaching a full understanding of the intent and limitations of the vessels."

If a vessel traffic system would be deemed as a solution to controlling the movement of vessels through this hazardous area, this could then be done with a basic level of vessel traffic control rather than with the level that would require surveillance. This accident could not have been prevented with ground level radar.

Coast Guard's comment: The reviewer's analysis does not mention that the reviewing officer also stated that a contributing cause of the casualty was the swift river current, and the restriction of the channel by a dredge, a grounded vessel, and a reduced draft channel. Another dredge and a tug were also operating in the area. Radar would have provided the VTC with an up-to-date plot of the hazardous situation developing. In this situation, the VTS can assume positive control of traffic flow through the section.

Case No. 42597—January 23, 1974

Subject: M/V L. A. *Levy* Collision with the anchorline of dredge *Paul F. Jahnke*.

Visibility: Zero.

Total Damages: \$3,000.

Reviewer's comment: There is no way ground radar could have prevented this accident, since the captain of the *L. A. Levy* was running in fog and knew the position of the dredge. The pilot blames the lack of his radar to pick up the buoy as the resulting cause and ground surface radar certainly would not have provided the resolution necessary to have picked up the buoy, nor would it have been able to provide the time warning necessary to prohibit an accident.

In accordance with the investigating officer's report, the cause of the accident was the failure of the operator of the M/V *L. A. Levy* to navigate with due caution during a period of reduced visibility. It was no surprise meeting, and his radar was working. Therefore, one would have to assume that pilot error was the resultant cause of the casualty. There is no conceivable warning that ground service radar could have given this pilot that would have avoided it.

Coast Guard's comment: The reviewer's statement that the ground surface radar (a misnomer) would not have the resolution necessary to pick up a buoy is incorrect. He also stated that, "There is no conceivable warning that ground service radar could have given this pilot that would have avoided the casualty." The reviewer again assumes that if someone committed a personal error, then VTS would not have altered the situation. We maintain that forewarning of hazards will have an influence. Further, in dense fog, the VTS may well stop or prioritize the traffic, or reduce it to one-way, thus altering the existing condition.

Case No. 42692—January 23, 1974

Subject: M/V *Bermeo* collided with SS *Tucrinca* at Mile 4 Head of Passes in fog.

Visibility: 300 ft. Very strong current.

Total damages: \$50,000.

Reviewer's comment: This accident could not have been prevented by surface radar, since the pilot aboard the M/V *Bermeo* was in constant radar contact with the anchored ship SS *Tucrinca* in a topping situation. In admission on the part of the statement of the pilot, he did not anticipate as much current coming through Cubit's Gap as he found, and the engine orders were not executed with the anticipated speed. He also stated the other vessel had out excessive anchor chain, thus causing him to strike the anchor chain and resulting in the collision between the vessels.

The investigating officer's report stated, "The approximate cause of the casualty was an error in judgment on the part of the pilot aboard the M/V *Bermeo* in evaluating the effects of a strong current upon his vessel." I concur with that finding and do not see how surface radar could have played any role in prohibiting this accident.

Coast Guard's comment: There is some question that the M/V *Bermeo* was in constant radar contact with the SS *Tucrinca* as reported by the reviewer. The report of Vessel Casualty filed for the *Bermeo* stated that she was not equipped with radar, although the Associated Branch Pilot, Mr. Nebel, on the *Bermeo*, mentioned "making radar observations" in his statement.

Managing traffic during conditions in the lower Mississippi River (i.e. extreme flood stage, congested anchorage, vessels aground, and restricted channel) that existed at the time of this casualty requires positive surveillance. Radar would greatly improve the VTC's ability to do its job.

We have to assume the VTS will lend some order to the general chaos which succeeds sudden fog, when the river is at extreme flood. Whether it be one-way traffic, assignment of anchorages, navigation assistance, or other actions, the VTS would have altered the situation in which the *Bermeo* found itself.

Case No. 50441—January 18, 1974

Subject: SS *Baune* collision with SS *Key Trader*.

Visibility: Fog conditions—river current 4 to 5 knots.

Location of casualty: Mile 6.2 Ahead of Passes Mississippi River on the East Bank.

Total Damages: \$1.59 million. 16 lives lost.

Reviewer's comment: This particular accident was investigated in detail by both the United States Coast Guard and the National Transportation Safety Board. There was collision and fire, damaging both vessels, killing six people, injuring three, with ten persons missing. The investigation is extensive and there is ample material on which I will make the following assumptions:

The SS *Key Trader* was downbound in the Mississippi River near Wilder Flats light with low lying fog and poor visibility, and approaching the SS *Baune* several miles downstream near the East Bank. The *Baune* was passing the general anchorage area to its right and near the upper end overtaking two anchored vessels, the SS *Ocean Princess* and SS *Pyramid Venus*. Both vessels were operating in reduced visibility and at substantial speed.

In its investigation, the Coast Guard found basically five factors as the probable cause of the collision between the two large vessels. They are:

1. To the failure of both vessels to proceed at a speed commensurate with the poor visibility conditions which existed.

2. To lack of communication between the two vessels, resulting in failure to establish a passing agreement.

3. To the impropriety of the starboard to starboard passing proposed by the SS *Key Trader*.

4. To the improper action taken by the SS *Key Trader* when no response to the passing proposal was heard.

5. To the failure of the SS *Baune* to maintain a proper lookout."

At the very heart of these problems is communications, or the lack thereof. In the Marine Casualty Report the problems with communications on the bridge-to-bridge radiotelephone frequency Channel 13 are pointed out numerous times. It even appears as one of the Commandant recommendations to the Federal Communications Commission. It should be further pointed out that both vessels were in radar contact with each other in ample time to have avoided a collision had proper communications been established.

I agree basically with the probable cause of the collision, as outlined in the Marine Casualty Report. I do not believe, however, that the use of land based radar, coupled with a VMRS vessel traffic system, would have been the ultimate saviour for this type of incident. It is important to note that the National Transportation Safety Board's recommendations regarding vessel traffic services are as follows:

"Determine the maximum strength of the current, which leads to the mandating of one-way traffic for vessels that are navigating by radar in limited visibility on the inland waters, and require the vessel traffic service to mandate one-way traffic when the strength of the current exceeds the maximum strength."

This recommendation has not been followed to date and could be accomplished by regulatory action and the use of the existing vessel movement reporting system. Although I agree that some level of surveillance is imperative for a properly working VTS, high resolution radar would not have contributed as an aid to vessel traffic service in this particular situation. The vessels did in fact have radar contact with each other and ground level radar would not have been able to predict or critique the vessel movement to such a degree that a collision warning could have been broadcast in time to have avoided the casualty. The very earliest possible opinion that collision was imminent would have occurred on the bridges of the vessels involved.

The Commandant of the United States Coast Guard, Owen W. Siler, recommended "that a harbor advisory and traffic control system be established to control the

movement of vessels transiting the Mississippi from the entrance to the Passes, to and including New Orleans harbor. The purpose of such a system would be in negotiating the Mississippi River, both during periods of poor visibility and during periods when one-way traffic control may be required." Again, the Commandant in his recommendations only recommends that a harbor advisory and traffic control system be established, and his emphasis was placed on the establishment of one-way traffic during poor visibility. It should be pointed out this type of vessel traffic control could easily be accomplished with the existing VMRS and without sophisticated ground level radar.

It is obvious, as an experienced pilot, that there were far more causes of this casualty contributable to poor communications and poor pilotage than there were to the lack of adequate radar surveillance. Principally, they are: The lack of proper sound signals, inadequate bridge-to-bridge radiotelephone communication, failure of the *S/S Key Trader* to adhere to the Inland Rules of the Road in attempting a starboard to starboard passing with the *Baune*, failure of the *Baune's* pilot to anticipate oncoming traffic because of this participation in a one-way vessel movement agreement, and the excessive speeds of both vessels. None of the above contributable causes could have been corrected by the installation of ground level radar. Some could have been corrected by the use of a properly operating VMRS and most certainly communications improvements on the bridge-to-bridge frequency, and strict adherence to the Rules of the Road would have been the major areas in which improvement could have avoided this casualty.

In summary, neither the National Transportation Safety Board nor the Commandant of the United States Coast Guard recommended, as a result of this casualty, that ground level radar be installed in conjunction with VMRS. In fact, their implications are that a properly working VMRS would have been a contributing factor only. Furthermore, both parties agree that at the heart of this casualty was the lack of adequate communication. As a pilot, I do not understand why such strong emphasis is being placed on the installation of radar based upon this casualty, when practically no solutions have come forth for the major cause, communications.

Coast Guard's comment: The reviewer stated that "The Commandant of the United States Coast Guard, Owen W. Siler, recommended 'that a harbor advisory and traffic control system be established to control the movement of vessels transiting the Mississippi from the entrance to the Passes to and including New Orleans harbor * * *'" In fact, the Commandant did not make that recommendation. It was made by the Marine Board of Investigation convened to investigate the circumstances surrounding the collision. The Commandant response was: "The informal agreement for vessel traffic control as discussed in the Board's Conclusion 10 is considered ineffective. The system being non-mandatory, nor regulated, nor enforceable offered only a modicum of security to vessels operating in the area. The Coast Guard has plans for the establishment of a vessel traffic service which will encompass the recommended portion of the Mississippi River. A vessel movement reporting system should be in operation by mid Calendar Year 1977. It must be kept in mind, however, that safe navigation can be effected by strict adherence to the Rules of the Road, prudent navigation, and the proper use of all equipment available to the navigator such as radar and radiotelephone."

In his analysis the reviewer lists the following as "causes" of the collision:

- a. Lack of proper sound signals.
- b. Inadequate bridge-to-bridge radiotelephone communication.
- c. Failure of *SS Key Trader* to adhere to the inland Rules of the Road in attempting a starboard-to-starboard passage—
- d. Failure of the *Baune's* pilot to anticipate oncoming traffic because of his participation in a one-way vessel movement agreement.
- e. Excessive speed of both vessels.

He then proceeds to conclude that these "causes" could not have been "corrected" by a VTS radar. Here is the heart of the difference in interpretation between the reviewer and the Coast Guard. The reviewer does not apparently believe a radar would have altered the circumstance of this incident; we do.

First the VTS might not have allowed the *SS Baune* to enter the river because of the reduced visibility; second the VTS might have enforced one-way traffic—it certainly would have been able to detect violations on its radar; third, it would have warned the *Key Trader* of a violation of the one-way rule; and fourth, if one-way traffic had not been in effect the VTS would have given each vessel ample warning of the presence and intentions of the other, allowing timely exchange of meeting arrangements on bridge-to-bridge radio.

In his presentation on this case the reviewer states—"I agree that some level of surveillance is imperative for a properly working VTS—". Later he states that—

"this type of vessel traffic control (enforced one-way traffic) could easily be accomplished with the existing VMRS and without sophisticated ground level radar." He may be suffering from the misunderstanding that the radar operator's purpose would be to detect vessels on collision courses and to call each on the radio and recommend a course to steer or an action to take. This, of course, is not the function of the radar.

Case No. 40171—December 11, 1972

Subject: M/V *Voyager* and tow in collision with the M/V *Gulf Star*.

Visibility: 700 ft.

Location: Mile 25 Lower Mississippi River.

Total Damage: \$8,000.

Reviewer's comment: Since this casualty occurred at Mile 25 Lower Mississippi River, this would be beyond the proposed coverage of radar at the Head of the Passes.

Coast Guard's comment: The reviewer assumes that this casualty was beyond the proposed coverage of the VTS radar. He is in error. The proximate cause of the casualty was both operators were unable to determine their positions during a period of dense fog. VTC may have been able to provide radar guidance.

Case No. 33000—December 13, 1972

Subject: Grounding of crew boat at the Entrance to South Pass.

Visibility: 100 ft.

Total Damage: \$4,000.

Reviewer's comment: This is a situation involving a crew boat who was operating in poor visibility on radar, trying to enter South Pass en route to Venus, Louisiana. The operator apparently missed the entrance to the pass and grounded his vessel. Since the resolution involving the operator's radar would have been far greater than that of ground level radar being operated by VTS, it is improbable that his error in navigation could have been detected in time to avoid the casualty. The Coast Guard agrees that the resolution of the proposed radar, because of the large geographic area that it must sweep, would be ineffective in avoiding such casualties.

Coast Guard's comment: Reviewer bases his analysis on the false premise that the resolution of the operator's radar would have been far greater than that of the VTS's radar. In this type of situation, VTC can give emergency radar guidance.

Case No. 32989—January 21, 1973

Subject: M/V *Triton* with the M/V *Wager*.

Visibility: Less than 1/4 of a mile.

Total Damages: \$3,000.

Reviewer's comment: This was a casualty involving the downbound M/V *Triton* and the upbound M/V *Wager*, both operating in reduced visibility and both navigating on properly operating radars. Vessels were running at reduced speed and radiotelephone communications were not made. Both vessels had capability of radiotelephone communication.

Ground level radar could not have prevented this accident, since both vessels had each other in radar contact, and the resolution contained in their radars would have been far more accurate than that of VTC's ground level radar.

It should be pointed out once again the lack of communication was at the heart of this casualty.

Coast Guard's comment: The cause cited for this casualty was failure of the operator of the M/V *Triton* to navigate his vessel with caution during conditions of restricted visibility. There was also evidence of violation of the Inland Rules of the Road 33 USC 192, Article 16 on the part of the operator of M/V *Triton*, which contradict the reviewer's statement that both vessels were running at reduced speed.

The reviewer is also in error when he states that the vessels radar would have been far more accurate than that of the VTC's ground level radar.

Radar would have provided up-to-date plot of this situation and the vessels involved advised. There is also the possibility that the presence of surveillance radar would have influenced the speed of the vessels.

Case No. 32639—March 5, 1973

Subject: M/V *Martha Envoy* grounding.

Visibility: 20 yards.

Location: Pilottown Anchorage Mississippi River.

Total Damages: \$20,000.

Reviewer's comment: This is a case where the deep depth vessel was attempting to anchor at a crowded general anchorage in heavy fog. The vessel simply navigated

by radar into an area, dropping anchor and grounding at the same time. It was not until after the engines were ordered astern to pay out anchor chain that the pilot realized he was aground. There is nothing more involved in this casualty other than the fact the pilot simply misjudged the depth of water in which he was anchoring. In no way could ground level radar have avoided this casualty.

It is incredible to believe that cases such as this are used to justify radar at the Head of Passes, since there absolutely is no reasonable logic that would theorize that it would have prevented such a grounding.

Coast Guard's comment: VTS radar is especially vital during conditions that existed at the time of this casualty. Radar may have provided the VTC with anchorage information which could have been passed on to the *Martha Envoy*, such as a less crowded section of the anchorage area.

Case No. 32602—November 12, 1972

Subject: M/V *Point Chicot*.

Visibility: Unknown.

Total Damages: \$43,000.

Reviewer's comment: It is absolutely incredible this casualty is being used to justify ground level radar at Head of Passes. This is a simple situation where the operator of the *Point Chicot* was towing barges by hawser and decided to hold up in Southwest Pass for an outbound ship. His hawsers simply parted and the barges became adrift. Several vessels were contacted and they assisted in rounding up the barges and resecuring them.

In the report by the investigating officer of the United States Coast Guard, he states, "A contributing cause of the casualty was the towing of more than two vessels through Southwest Pass during a period of darkness in violation of 33 CFR 207.200(D)(6)." He stated no other probable cause of casualty. Radar was in operation on board the vessel *Point Chicot*.

Coast Guard's comment: This is a case that points out the reviewer's misunderstanding of the uses and capability of the VTS's radar. The M/V *Point Chicot* was in violation of 33 CFR 207.200(D)(6), which was cited as a contributing cause of the casualty. Had a VTS with radar been in operation, the *Point Chicot* would have been required to participate. He would have been obliged to check in prior to entering the pass. Knowing he would be monitored on radar, it is doubtful that he would have attempted to go in with barges on the hawser; he would not have found himself making what were apparently drastic maneuvers in order to avoid other vessels.

Case No. 32452—March 1973 Subject: Sea Barge Freeport and M/V Theresa F.

Visibility: Dense Fog.

No monetary damage.

Reviewer's comment: This is a situation where the M/V *Theresa F.* was towing on a hawser barge *Freeport* and navigating in low visibility. He was running at slow speed when he grounded his barge in 19 feet of water. The radar was in operation and so was his radio. Since the casualty occurred in the confined waterway of Southwest Pass and since his radar was in operation, there is little doubt that the casualty occurred as a result of poor judgment. As a matter of fact, the investigating officer's report states, "The approximate cause of the casualty was the poor judgment of the master of the *Theresa F.* in that he attempted to navigate the restricted waters in Southwest Pass in dense fog, resulting in the grounding of his tow."

It is impractical to assume that ground level radar would have prohibited this casualty.

Coast Guard's comment: This is a situation, in restricted waters and in dense fog, where VTS radar can provide emergency surveillance and navigation information when and if a vessel needs assistance.

The reviewer blames the accident on the operator, and apparently further assumes the operator would have disregarded the radar of the VTS as a possible source of navigational assistance. This assumption is not reasonable.

Case No. 32311—January 3, 1973

Subject: SS *Carl Schmedeman* collision with M/V *Scottie Robin*.

Visibility: Dense Fog, 3-4 KTS current.

Total Damage: \$26,000.

Reviewer's Comment: This is a collision between M/V *Scottie Robin* and the SS *Carl Schmedeman*. At about 1:10 P.M. the *Scottie Robin* was downbound in the Mississippi River near the Jump when he encountered by radar in reduced visibility a target. He heard one whistle and proceeded to direct his vessel to starboard for a port to port passing, when all of a sudden he visually saw the SS *Carl Schmedeman*.

At this point it was too late to avoid the casualty. The fog in the vicinity was patchy and both vessels' radars were operating.

It is impractical to assume that ground level radar would have avoided this casualty. However, information communicated to both vessels of the other's approximate location would have been beneficial. Again this points out the need for bridge-to-bridge communication, which was nonexistent in this particular case.

I do not believe that ground level radar and a VTC would have avoided this casualty, as there were other obvious means available to reduce this kind of situation to a safe pass.

Coast Guard's comment: The investigating officer reported that the proximate cause of the casualty was the failure of the operator of the *Scottie Robin* to operate his vessel at a moderate speed during a period of reduced visibility due to dense fog. A contributing cause was the failure of the operator to properly evaluate the radar information. The VTC's radar can act as a back up to ship's radar and give emergency guidance when needed. Sufficient information, confirmed by VTC radar, can be passed to vessel operators in time to allow them to reach a mutual agreement on a safe passage. The presence of radar can also influence the speed of vessels.

The *Scottie Robin* would have checked in with the VTS and have been advised of the presence and intention of the *Schedeman*. The reviewer makes the point that had bridge-to-bridge radio been used, the collision might have been avoided, and concludes therefore that a radar is unnecessary. On the contrary, we feel that a radar equipped VTS would have detected the *Robin's* movements whether or not he had his radio on, and warned the *Schedeman*.

Mr. MIDBOE. I have no further questions.

Mr. BIAGGI. Before I recognize Mr. Hughes, the New Orleans area is now participating at a 95-percent rate, especially in light of the original, at least confusion, if not rejection——

Admiral HAYES. Excuse me, Mr. Chairman.

I believe you misunderstand what I said.

I said except in New Orleans. They are now up to about 67 percent, which really is a heartening increase in participation.

Mr. BIAGGI. Did that change of heart occur after the November 9 collision?

Admiral HAYES. Yes, sir, it did.

Mr. BIAGGI. So one would have to conclude from that that the Coast Guard was right all along?

Admiral HAYES. Well, I do not know. We make mistakes, too, Mr. Chairman.

Mr. BIAGGI. We are aware of that, at least on that score.

Mr. Hughes?

Mr. HUGHES. Thank you, Mr. Chairman.

I would like to welcome the admiral and his staff. I first want to commend the Coast Guard for what I think was an excellent job off of our coast. I represent the Second Congressional District in New Jersey.

Last year, when a barge ran aground off Ventnor, N.J., I think we saw the professionalism of the Coast Guard in action. They were on the scene in a matter of hours, and the people in my area are very grateful. We see it also in your sea and air rescue work. We want to make certain that those efforts are continued at the present level.

I also want to commend the Chairman. I am happy to be back on the Coast Guard Subcommittee. I think the Chairman does a fine job and I note that a ferry boat is about to be commissioned for Governor's Island, N.Y., and I have a name that I would like to suggest: The S. S. Biaggi.

Admiral HAYES. How about the C. G. Biaggi?

Mr. HUGHES. And the other thing I want to inquire about is whether or not it is going to make any stops in Atlantic City, In all seriousness, I have a couple of concerns. I do not see anything in the report that would indicate to me whether or not the Coast Guard is committing any funds to the development of the black box, the technology to monitor ocean dumping, which is of immense concern to us.

Admiral HAYES. I think, Mr. Hughes, you may have misinformation. We have it developed and are preparing to require its installation on ocean dumping vessels.

Mr. HUGHES. I wonder if we can get a report on just where we are?

Admiral HAYES. Most certainly.

[The following was received for the record:]

OCEAN DUMPING SURVEILLANCE SYSTEM RESEARCH AND DEVELOPMENT

The research and development effort for the Ocean Dumping Surveillance System (ODSS) was completed in June 1978. A final report on this project has been drafted and is expected to be published very soon.

The results of the operational testing phase have shown that the concept of utilizing this "black box" to augment our surveillance capability is feasible. Three different types of dumping operations were evaluated and the ODSS produced positive results in all cases. Testing was conducted with a self-propelled sewage sludge tanker, with a tug and barge combination utilizing dump mechanisms remotely controlled from the tug, and with a tug and barge combination utilizing manually operated dump mechanisms on the barge.

Regulations are presently being drafted which will require waste transporters to purchase and maintain an ODSS on vessels engaged in ocean dumping operations. These regulations were to have been published in mid-1978. Two significant revisions to the draft document, minimum performance standards and certification procedures, have caused some delay. Completion of the regulations is a high priority project and publication is expected this spring.

No funds were requested for ODSS because the development has been completed and the procurement of the equipment will be the responsibility of those engaged in ocean dumping.

Mr. HUGHES. The second thing that I would like to inquire about is oil cleanup, the Coast Guard has developed a technology for cleaning up oilspills where the waves are not more than 5 feet high and the winds not more than 20 miles per hour.

I wonder how far along you are in your research for harsh weather conditions, such as we experience this time of year in the mid-Atlantic and other parts of the country?

I ask that question because as you well know, we have had close to a dozen rigs off the mid-Atlantic. George's Bank is going to experience exploratory drilling in the near future and it would appear that we still have no technology to clean up spills in those regions.

Admiral HAYES. The answer, very simply, Mr. Hughes, is that you are quite correct. Today, we do not have the technology to handle a major spill on the high seas under adverse weather conditions and, indeed, if it is sufficiently large, we do not have the capability really to clean it up adequately in any kind of prompt manner.

Having said that, again, you are quite correct that the point of our technology right now is as you have described it. That in itself, of course, compared to about 5 years ago, is quite a substantial advance in technology and capability. I believe I am correct in saying that our research and development program has probably

placed more emphasis on the marine environmental protection area than any other in recent years, and that is part of the reason why we are where we are today.

I think probably if I can try to crystal-ball the future a little bit, we are going to see a continuing evolution rather than a revolutionary development in our capabilities to contain and clean up. Whether or not we will ever be able economically to clean up a major spill on the high seas, I honestly do not know. I think there is at least the possibility that we may not be able to.

Mr. HUGHES. What concerns me is that you have requested \$2 million for the development of the ocean water oil recovery system. That is a system that can clean up in the areas where it is no more than 20 miles per hour and 5 foot seas.

How much of your resources are being committed to try to develop technology for harsher weather? Last year, when the Coast Guard was before our committee, we increased the budget amount by \$5 million. OMB had decided that this was an area that we could cut.

I think it is the worst area to cut.

I think our research and development cannot be cut, particularly if we are moving toward an accelerated leasing program in some frontier areas. It seems to me this has to be one of our priorities, and I am not so sure it is.

Admiral HAYES. Mr. Hughes, this budget does provide about \$2.7 million specifically directed at the containment and cleanup problem.

Mr. HUGHES. How much of that is for developing the present system, the system that you perfected, which you called the Ocean Oil Water Recovery System, and how much is committed to trying to develop technology for addressing oilspills in harsher weather?

Admiral HAYES. That particular figure I quoted you, \$2.7 million, is devoted to improving our technology for addressing harsher weather oilspill cleanup.

Mr. HUGHES. What is the Coast Guard's capability?

Admiral HAYES. You mean to handle more than that?

Mr. HUGHES. What is the Coast Guard's capability in addressing this on a priority basis?

Admiral HAYES. Our capability right now, with the additional personnel which the committee provided last year, has been expanded; and I think we clearly could handle additional funding in that area.

Mr. HUGHES. If we in fact determine that that is a priority?

Admiral HAYES. Yes, sir.

Mr. HUGHES. I understand that you submit to OMB and OMB decides in concert what you are to seek in budget amount from the Congress.

Admiral HAYES. We very carefully reviewed that question, because obviously the extent to which we can manage funds appropriated should be addressed.

Mr. HUGHES. Mr. Chairman, this is one area that I think we have been shortchanged, particularly in the frontier areas; and I am hopeful that we will look at it carefully with the Coast Guard so that we can determine what is the proper amount to get on with the research and development in oil recovery techniques.

Mr. BIAGGI. With special emphasis on development for the high seas.

Mr. HUGHES. Yes.

We have developed the technology, but we are not talking about the Gulf of Mexico when you talk about the mid-Atlantic or Georges Bank.

What can you tell me about the vessel traffic safety study that we talked about last year for the Delaware Bay Area? None have been proposed, but the Coast Guard assured me last year that they are going to look at some of the problems in the Delaware Bay and I believe the same assurances were given to my colleague, Mr. Evans, who also shares my interest.

I wonder if you can perhaps furnish that?

Admiral HAYES. Could I review that, Mr. Hughes?

Mr. HUGHES. Sure.

Admiral HAYES. I did review the testimony last year, and I just simply do not recall that. I will have to review it and provide it for the record.

[The following was received for the record:]

DELAWARE BAY HEARING

The Coast Guard held public hearings on Delaware Bay in November 1977 to solicit the views of local government, maritime interests and the public at large. The results of the hearings, along with the GAO recommendations made in August 1977, convinced us to seek more cost effective improvements in the aids to navigation provided in that area. In this regard, we have completed improvements to buoys in the Delaware Bay Entrance area. Our plans to modernize range lights in the Delaware River are 50 percent complete. Radar transponders (RACONs) for installation on the Delaware and Five Fathom Large Navigation Buoys (LNBs) are being tested now. The project to replace certain buoys with beacons in Delaware Bay should be completed this summer.

Mr. HUGHES. I am also concerned about a proposed consolidation of the Gloucester facility and, rather than take a great deal of your time now, I wonder if somebody perhaps can submit to the committee the reasons for the consolidation?

I realize it is an older facility, but it seems to me that the Gloucester facility has served us well for many years. There is now an effort to consolidate, apparently, as a result of a recommendation coming out of the Third Coast Guard District, and I would like to know the reasons for that; what we hope to achieve. If you have selected some sites to house that facility, I would like to know a little more about those proposed sites. Finally, I wonder if you can give us some idea of how your boarding and inspection of foreign-flag vessels is progressing.

The Commander, Third Coast Guard District, proposed in June 1978 to consolidate Base Gloucester City, which is the Captain-of-the-Port office on the Delaware River, with the Marine Inspection Office in Philadelphia. The basic reason for this proposed consolidation was for more effective and efficient service to the public along the Delaware River since both Base Gloucester City and the Marine Inspection Office deal with the same merchant marine industry along the river. Combining these two facilities into one should provide more efficient service to the public, more equitable regulatory treatment of the merchant marine industry, and better utilization of Coast Guard resources. This proposed consolidation is also illustrative of other efficient reorganizations of Captain-of-the-

Port and Marine Inspection Officers that we have achieved within the Coast Guard since 1972.

Since most of the merchant marine industry which we regulate is on the Pennsylvania side of the Delaware River, the proposed consolidation has been focused upon that side. We have approved the concept of reorganizing but we have made no commitment as to where this new combined facility will be located. We are awaiting further information from the Third Coast Guard District to help identify which site would be the most cost effective and efficient.

Admiral HAYES. Our boarding and inspection program is a real bright light, I feel. I think that is a program that was extremely well conceived.

The results, as I think I mentioned earlier in this hearing, have been very salutary. We are now at a point where we are inspecting, I believe, 100 percent of the foreign-flag vessels initially. With those who have clearly demonstrated that they are in compliance, consistently, we are backing off a little bit and doing spot checking. We are concentrating on the ones who are consistently in violation of our standards.

The thing that I mentioned earlier—I am not sure that you were here at the time—was that one of the things that went beyond our expectations was the rapidity with which deficiencies were corrected by the next time the vessel showed up in port; often the great majority of the deficiencies identified had been corrected. So we see a positive approach by almost all the flag nations in supporting that program.

Mr. HUGHES. Does the Coast Guard see any limitations on the present authority that should be reviewed by this committee so that you do have the capability to fully inspect both the crews insofar as—

Admiral HAYES. I am not aware of—

Mr. HUGHES [continuing]. Insofar as manning standards, as well as other things that we are interested in?

Admiral HAYES. I am not really aware of any at this point, Mr. Hughes. I think there are clearly some areas in the international arena.

Mr. Studds brought up one or two points that obviously are going to be a lot more difficult to deal with, having to do with the vessels in transit. But once they are directly in our jurisdiction, in the territorial sea, I am not aware of any shortcomings in authority that we currently have.

Mr. HUGHES. What is your goal insofar as followup inspections once a vessel has been inspected?

Admiral HAYES. Of course, the whole purpose of our marine safety information system, is to provide us with management information so that we will be able to determine those vessels to concentrate our efforts on.

Mr. HUGHES. I see.

Thank you, Mr. Chairman.

OUTER CONTINENTAL SHELF FUNDING

Mr. BIAGGI. Thank you, Mr. Hughes.

Admiral, reference was made to additional personnel for the Outer Continental Shelf and, as I recollect, you indicated that a study is underway and when it is completed you will submit a request for supplementary appropriations.

What objection do you have to some request in the authorization bill?

Admiral HAYES. I do not think I would have any objection, Mr. Chairman.

MRS AIRCRAFT PROGRAM

Mr. BIAGGI. We happen to think it is necessary, as a matter of procedure, but I was just curious.

The MRS plans schedule will be completed in August 1979 and we have three more funded, at least the request for three more, in this submission; and it completes the entire contract.

Now, I understand they are not ready for delivery but delivery will commence in 1980?

Admiral HAYES. That is correct.

Mr. BIAGGI. Can you tell this committee the reason for the delay?

Admiral HAYES. The reason for the delay, Mr. Chairman, is the requirement to have the Garrett engine meet the certification standards of the FAA. That has held up the availability of that engine for installation in the aircraft.

Mr. BIAGGI. Would you please be a little more elaborate in that response?

Has it not been tested?

Is it a new engine?

Admiral HAYES. Could I ask Captain Robbins to answer that; being an aviator, he may be able to answer it more precisely than I.

Captain Robbins. The engine that is being put in the airplane, is a Garrett engine and it is a new model; it is called a high-bypass fan, I believe, and it was not able to withstand the test that it has to withstand in order to pass FAA certification. As a result, they had to go back to the drawingboards with some part of it, and that has delayed delivery of the airplane.

Mr. BIAGGI. Who is going to fly the first half dozen? Certainly not members of this committee.

Admiral HAYES. Some well-trained Coast Guard pilots.

HOUSING PROGRAM

Mr. BIAGGI. You have requests for housing. We believe housing is important.

Could you spell out to this committee what the housing needs are and what plans you have and what additional funds you need to expedite the completion of these units?

Admiral HAYES. First of all, Mr. Chairman, it might be helpful if I very quickly outlined my priorities for housing these people.

As I speak on the subject of housing, I would like to emphasize that more and more, I believe, we are talking about adequate housing for our bachelors as well as our married personnel.

First, I would prefer to see our personnel in their own homes in the community in which they are serving. We are looking at a number of approaches of how we can help our people get the equity

to buy their own houses once they have made a career determination. That would be my first priority.

My second priority which begins to get into the appropriations end of things, would be the leased housing program. In other words, leased homes in the community that we are serving so that we, the Federal Government, or at least we, the Coast Guard, do not have to manage the housing ourselves.

My third priority would be to construct houses or housing units, apartment units, in the community that we are serving; my least desirable alternative is to construct housing at Coast Guard stations or large support centers. That is my hierarchy of priorities. They do not really differ too much, I do not think, from my predecessors'.

With respect to the approach that we are presently taking, this particular budget is requesting about 2,375 leased houses with our fiscal year 1980 increase. With respect to construction, we are going to be able to undertake construction of about 178 units—no; I am sorry—we could undertake construction of about 178 units, but this year we are requesting 58 units in the current budget.

Our planned locations, incidentally, for the record, Mr. Chairman, will be Sheboygan, Mich., San Juan, Puerto Rico—

Mr. BIAGGI. Admiral, your housing requirements are 178; why do you submit a budget request of 58?

Admiral HAYES. This is our A.C. & I. construction priority determination within the budget limitations that we are facing.

Mr. BIAGGI. You would not object to being given additional moneys?

Admiral HAYES. I think we could manage it in a responsible fashion, Mr. Chairman.

CUTTER "DUANE" MAINTENANCE

Mr. BIAGGI. One last question.

I have a series of questions which I will submit for written answers; and my colleagues have additional questions.

Last year, we provided additional funding for the operation of the *Duane* so that they could enforce the 200-mile limit more effectively. Since that time, they have needed maintenance work. I understand this goes with the extensive patrol and we just do not have the capacity to maintain it or repair it while in operation. These are the complaints that we get.

Would you care to comment?

Admiral HAYES. Not too long ago I made the decision to continue the *Duane* in operation. That was part of our reprogramming activity within our overall budget.

SHIPBOARD ASBESTOS CONTAMINATION

I also have something to report to the committee that occurred fairly recently which you may not be aware of; we have found that the levels of asbestos contamination in these old ships is such that we are going to have to spend a considerable amount of money on each vessel of this class in order to solve that problem for our personnel. That is an example of the kind of financial problems that we encounter with these older ships.

I believe that we will be able to bring that class of vessel back up to an adequate standard to serve well at sea, at least for a few more years, until we can have them replaced.

Mr. BIAGGI. How much more money would you need?

Admiral HAYES. We are developing that right now, Mr. Chairman. Could I provide that later for the record?

Mr. BIAGGI. Sure.

[The following was received for the record:]

WHEC'S MAINTENANCE COSTS

To keep the 327 foot WHEC's running in the near term until they are replaced will require \$125,000 per year per cutter to hold line on degradation (total \$625,000 per year.)

To eliminate the asbestos hazard will require \$2,000,000 for the five 327 foot WHEC's.

Mr. BIAGGI. Mr. Studds?

Mr. STUDDS. Do you want me to start, Mr. Chairman? I have several long questions here.

Mr. BIAGGI. Yes.

TANKER CONSTRUCTION REGULATIONS

Mr. STUDDS. Admiral, in June, last June, the Department of Transportation set forth an agenda for the issuance of future regulations by the Coast Guard which included a targeted date of October 1978, last October, for new Coast Guard regulations concerning the construction design standards for tank barges carrying oil.

What happened?

Admiral HAYES. My most recent information, Mr. Studds, is that we are now very close to the issuance of an advance notice of proposed rulemaking and a notice of rulemaking.

Mr. STUDDS. What happened? Why the delay?

Admiral HAYES. I am not aware of anything other than just the bureaucratic process, Mr. Studds. I am not aware of any significant events.

Mr. STUDDS. Will they require double hulls for new barges?

Admiral HAYES. Yes, sir. That is my understanding. I have not reviewed the packages.

Mr. STUDDS. Will they require that older barges be fitted with double hulls?

Admiral HAYES. I believe the answer is no, but they will phase out older barges by a certain date.

MARINE SAFETY INFORMATION SYSTEM

Mr. STUDDS. Let me start on this one. I do not know how far I will get.

In March 1977, the President, in his major statement on oil pollution, promised, "To require that the names of tanker owners, major stockholders, and changes in vessel names be disclosed and included in the marine safety information system." That was 2 years ago.

On April 13, last year, 13 months later, the Coast Guard issued a proposed rulemaking to that effect and, among other things, it said knowing the names of the vessel, since it has been in operation,

will enhance the Coast Guard's capability—on January 9 of this year the Coast Guard withdrew that proposed rule. Why?

Admiral HAYES. Basically because it seemed to us that we would be able to accomplish our objective by making use of the information in Lloyd's Register of Shipping and recording that information on a consistent basis in our management information system.

Mr. STUDDS. The information is already available from other sources?

Admiral HAYES. Not all of it, Mr. Studds. The stockholders portion is not available. It did not appear to be a crucial element in what we are trying to do.

Mr. STUDDS. Perhaps you could tell us who owns Thebes Shipping Co.

Admiral HAYES. I am sorry.

Mr. STUDDS. The people who owned—the company who owned the *Argo Merchant*.

Admiral HAYES. Well, clearly, I cannot do that.

Mr. STUDDS. No. Neither can Lloyd's.

What happened to the President's promise of 2 years ago is what I am asking.

Admiral HAYES. Of course, I am not familiar with the details, Mr. Studds.

The only information I have here is that we did decide at the time that the approach we are taking would provide us with as much information as we needed in order to pursue a vessel casualty.

Mr. STUDDS. Was there just agreement within the Coast Guard to simply forget that part of the President's promise to the American people?

Admiral HAYES. No. I do not really think it was taken in that vein, Mr. Studds; that the problem we encountered was a virtual impossibility of continuing and maintaining an accurate information system such as that which had been described. Sometimes when we forecast something we are going to do, clearly it does not turn out to be as feasible as we thought. I really think this is the answer to that question.

Mr. BIAGGI. On that point——

Admiral HAYES. Incidentally, Mr. Studds, it is against some foreign nations' laws to give out that information.

Mr. STUDDS. Are those the laws that we wrote, like in Liberia, for example, really. Obviously, I do not mean you, but it gets to the point that, 2 years after an explicit promise by the President of the United States, where an agency comes and says, we are not sure about this, that there are some serious questions that have to be asked.

Mr. BIAGGI. On that point, Admiral, for the record at least, I do not know that the matters have been fully explored or to what extent the Coast Guard has addressed itself to that issue. It is an important issue. To hide behind the veil of corporations and operate in haphazard fashion, is a situation that should not be countenanced and I think it is important that we assert all of our energies to penetrate that corporate veil.

Mr. STUDDS. I have one more closing question, Mr. Chairman, if I may.

Are you going to save the North Truro fog horn?

Mr. OBERSTAR. They did not save the fog horn up in Grand Marais or in Duluth.

Admiral HAYES. If you want a serious answer, I have not the foggiest notion.

Mr. STUDDS. I will write you another letter, then.

Thank you, Mr. Chairman.

Thank you.

BOATING SAFETY FUNDING

Mr. HUGHES. Maybe I could ask very briefly, are there any moneys in the budget for boating safety?

Admiral HAYES. Yes, sir, very substantial moneys, but there are not any moneys to expand the boating safety program.

Mr. HUGHES. But there is money in there to continue the program?

Admiral HAYES. Oh, yes, indeed. In fact, the only change that I am aware we have made in the boating safety program is not to include the grant program to the States, which is a separate appropriation.

Mr. HUGHES. That is what I am talking about.

Admiral HAYES. If you are talking about the grant program, it is not included in this budget.

Mr. HUGHES. There is no plan to even try to phase in the States with a larger share? It is just a total phaseout of that grant program?

Admiral HAYES. Well, if you would like me to comment, Mr. Hughes, I participated in the development of that particular legislation, just before it became law, and the intent was that it be a very specific finite program to get the States involved in boating safety in a substantial way. In my judgment, that has occurred.

Mr. HUGHES. I thought we were accelerating that phaseout.

Admiral HAYES. No, sir, not at all. If anything, it has gone beyond the original planned phaseout date of the original law.

Mr. BIAGGI. Any further questions?

There being none, Admiral, thank you very much for your extraordinary display of knowledge and testimony. We appreciate your candor and cooperation and look forward to a very pleasant relationship.

Admiral HAYES. Thank you, Mr. Biaggi. I do, too.

Mr. BIAGGI. The meeting is adjourned.

[The following was submitted for the record:]



**DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD**

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7121.4
MAR 27 1979

Honorable Mario Biaggi
Chairman, Subcommittee on Coast Guard and Navigation
Committee on Merchant Marine and Fisheries
House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

This is in response to your letter of 5 March 1979 to Admiral HAYES concerning additional information desired for the FY 1980 Coast Guard authorization hearing record.

The inserts for the record requested during the course of the hearing on 28 February 1979 have been included in the appropriate sections of the transcript which was returned to the Subcommittee's office on 15 March. Enclosed are answers to the additional questions forwarded by your letter.

Please let me know if I can be of further assistance.

Sincerely,

T. H. RUTLEDGE
Captain, U. S. Coast Guard
Chief, Congressional Affairs
By direction of the Commandant

Encl: (1) Questions and Answers -- Mr. Biaggi
Questions and Answers -- Mr. Studds
Questions and Answers -- Mr. McCloskey

Copy to:
Honorable David C. Treen w/enclosure

QUESTIONS OF MR. BIAGGI AND ANSWERS

Mr. BIAGGI. What is the status of the program to procure 160-foot inland construction tenders?

Admiral HAYES. Four 160-foot inland Construction Tenders were built and are now in service. The program was terminated after the fourth vessel was built. There is no requirement for any additional new tenders of this class.

Mr. BIAGGI. In a recent letter, the Comptroller General reported that DOT's Transportation System Center concluded that the Coast Guard needed significantly more resources to effectively respond to future oil spills within the President's goal of responding to major spills within six hours. Does this budget provide those resources?

Admiral HAYES. No, it does not.

Mr. BIAGGI. That same letter mentioned that you were preparing a combined report that would present a single resource request for pollution resources. Has that report been completed?

Admiral HAYES. Yes, the report was delivered to the Office of the Secretary this past fall. It identified the resources necessary to provide adequate response within six hours for a spill of up to 100,000 tons of oil.

Mr. BIAGGI. Provide details concerning the request for pollution abatement equipment for Coast Guard vessels. Will this year's request enable the Coast Guard to comply fully with section 312 of the Federal Water Pollution Control Act (FWPCA)?

Admiral HAYES. The \$3.3 million provided in the fiscal year 1980 Budget will complete all of the vessels that have been determined to require modifications to meet their normal missions within the statute.

The Coast Guard will be in full compliance with the law. We have recently decided to continue CGC *Citrus* in operation to replace CGC *Modoc*. *Citrus* pollution abatement system has not been funded, however, we intend to reprogram existing funds to accomplish the necessary pollution abatement changes within the time specified by law.

Mr. BIAGGI. The GAO recently recommended that the Coast Guard reevaluate its plans to replace existing East Coast 110-foot, hull-reinforced harbor tugboats within five 140-foot, multi-mission domestic icebreaker-tugs. Further, the GAO stated that to procure these vessels for East Coast operations appeared to be a waste of both capital investment and operating expense funds. Do you agree with the GAO's recommendation? What action is being taken or has been taken on their recommendation?

Admiral HAYES. I agree with the GAO's recommendation that the Coast Guard reevaluate its replacement plans for the East Coast 110-foot tugs. That reevaluation is already underway. I feel, however, that GAO's conclusions are premature concerning cost effectiveness of the 140-foot icebreaking tug for the East Coast mission. I feel that the GAO did not adequately consider the multi-mission employment of our cutters nor future mission requirements. Additionally, the report did not seem to attach importance to the cost advantages of a single design.

Mr. BIAGGI. Last year, we were informed that there was a backlog of work in the vessel documentation program. Provide details as to what has been done or is being done to clear up this backlog. Are there sufficient resources in this budget to eliminate or prevent backlogs in this program?

Admiral HAYES. The backlog still exists; higher priority requirements have superseded resource requests in this budget.

Mr. BIAGGI. Has the Navy study of the wartime capabilities of the Coast Guard been completed? If so, provide information as to its probable budgetary impact.

Admiral HAYES. The study has not yet been completed. The Center for Naval Analysis should have the final draft available for comment in mid to late March. From review of preliminary drafts, budgetary impact appears to be minimal.

Mr. BIAGGI. Has the study of the need for offshore monitoring systems been completed? Will additional funding be required?

Admiral HAYES. The study has not been completed. We have, however, started on this study and preliminary indications are that no additional funding will be required.

Mr. BIAGGI. There are some indications that sufficient funding is not being provided to permit the commencement of a number of projects for the alteration or removal of bridges that are obstructive to navigation. This budget proposes continuing the funding for three bridges and starting on one additional bridge. Provide the names of and details concerning other bridges, if any, which could use funding?

Admiral HAYES. No additional bridges are at a stage in their planning cycle that could use fiscal year 1980 funding. Funding for the next bridge will not be required before fiscal year 1981.

Mr. BIAGGI. Last year, you requested \$1.9 million to outfit operational units with secure voice communication equipment. What is the status of this project? Have you an evaluation of its effectiveness in law enforcement?

Admiral HAYES. A prototype installation and evaluation is being conducted on board operations units in the First Coast Guard District using previously purchased voice protection equipment. I will not proceed with a follow-on procurement of voice protection equipment using the funds authorized last year until completion of the ongoing evaluation effort later this spring. No operational evaluation of the effectiveness of the voice protection equipment is available since the equipment has not yet been deployed for operational use by field units. The Coast Guard has confiscated vessels used for drug smuggling on which we have found radio equipment crystallized to monitor our frequencies.

Mr. BIAGGI. Funding has previously been provided for the procurement of fast surface delivery systems, open water oil recovery systems, and other oil pollution response equipment, and for research and development in these areas. Provide an update as to the status of these programs, and a status report on the research and development activities in this area.

Admiral HAYES. Expenditures for all types of pollution response and oil recovery equipment from 1972 through 1981 are expected to total about 17 million dollars as indicated in the attached chart.

Research continues in 7 distinct areas. Some have produced results which are now incorporated into procedures and equipment used by field units (e.g., ADAPTS); other devices are now at the stage of initial purchase (e.g., air transportable oil storage containers, open water oil recovery systems).

[The information follows:]

U. S. Coast Guard
Marine Environmental Protection
Status of Equipment Procurement and Expenditures
(Dollars in thousands)

<u>Equipment</u>	<u>Number of Units</u>	<u>Amount (\$000)</u>	<u>Fiscal Year Procured/Planned</u>
1. ADAPTS Pumping Systems.....	18	840	1973
a. Chemical Arctic Retrofit	- - -	163	1978-79
2. Harbor Oil Containment Systems			
a. Kepner "Sea Curtain"	28K FEET	245	1973
b. Coastal Services Oil Boom	10K FEET	60	1973
c. T - T Boom	10K FEET	40	1972
d. Barrier Trailers			
(1) Single Axle	14	51	1973
(2) Double Axle	3	- - -	1973
3. Harbor Oil Recovery System			
a. Mark II - 4D Fibrous Rope System ..	5	98	1976
b. Lockheed 110F Disc Drum System ...	12	60	1977
c. Portable Oil Retrieval & Storage System	25	115	1976
4. Cold Weather Oil Recovery Systems.....	2	270	1977
5. Large Fenders	19	130	1974-77
6. Equipment Mobilizers	3	71	1977
7. Fast Surface Delivery Sleds	12	760	1977-79
8. Haz. Chem Protective Clothing Outfits..	60	780	1976
9. Open Water Oil Recovery Systems (Disc-Drum)			
a. Lockheed Type 4000	1	680	1977
b. Retrofit R&D Prototype	1	286	1978
10. Viscous Oil Pumping Systems			
a. Prime Movers	3	76	1978
b. Submersible Pumps	3	47	1979
11. Forklifts	3	186	1978
12. Cold Weather Inflatable Containment Barrier	9K Feet	512	1978
13. Towable Oil Storage Containers			
a. 240,000 gallons	3	871	1978
b. 50,000 gallons	6	---	1979
c. 10,000 gallons	6	1080	1979
d. Size and number to be determined... ---		884	1980
14. Open Water Containment and Recovery Systems			
a. Open Water Barriers	15	1420	1974
b. Lightweight Mooring Systems	15	60	1974
c. Barrier Handling Systems	3	240	1974
d. Transport Trailers	16	256	1978
e. Skimming Modifications to Barriers..	14	347	1978-79
f. Pumping Subsystems	26	1062	1978 - 80
g. Skimming Barriers	12	2060	1979
15. Mobile Command Posts	3	100	1974
16. Fast Current Oil Recovery Systems ... ---		3200	1979
17. In-site Sensors	10	400	1981
Total Amount		\$17,450	

Mr. BIAGGI. According to a recent Comptroller General report, the original estimate for the MRS aircraft program was \$83.3 million and the current estimate is \$347.2 million—an increase of over 300 percent. Why has there been such a large increase in the cost of these aircraft?

Admiral HAYES. In March of 1974 the Congress was told that the cost of procuring 41 MRS aircraft was \$83.3 million. This cost estimate was to purchase 41 Sabreliner jets on a sole source contract which was to be added on to another service procurement; the cost per aircraft was estimated at \$2 million per aircraft. The Coast Guard subsequently reverted to a two-step formally advertised procurement method. When the contract to procure 41 Falcon 20 aircraft was signed in January of 1977, the cost was \$4.99 million per aircraft plus escalation charges. Furthermore, the original price estimate did not include spare parts, radar, sensors or initial transition training for aircrews. In summary, the higher cost represents the cost of procuring a markedly different aircraft under a completely different procurement process nearly three years later.

Mr. BIAGGI. You request the re-engineering and renovation of seven 95-foot patrol boats. This will provide for a total of seventeen boats. With nine more to be modernized. Since these boats were very effective in inshore patrol work in Vietnam—and are just as effective in drug interdiction work, would it improve your drug interdiction program if additional funding were provided? How many of these boats will be stationed in the Seventh and Eighth Districts?

Admiral HAYES. Actually, it was our 82-foot WPB's that were used in Viet Nam, but both the 82-foot WPB's and 95-foot WPB's are being used quite effectively for drug interdiction and other law enforcement patrols. Fiscal year 1978 Supplemental funds were provided to increase WPB operating time to 1,500 hours annually. The increased authorization has shown excellent results. One thing we are finding, though, is that the crew size on the renovated 95-foot WPB's, although adequate for SAR work, has not been sufficient for the more demanding pace of the ELT patrols. Consequently, we now plan a crew size of 13/14 for the 95-foot WPB's. Similarly, we have found that a crew of 8 is not sufficient for law enforcement patrols on the 82-foot WPB's.

We are attempting to increase the crew size to ten—the maximum that the 82-foot WPB can handle with acceptable crew habitability. Unfortunately, after our current budget sheet was prepared, we have discovered during renovation of the first three 95-foot WPB's, that more extensive work is required than was originally estimated. The result is that the funds already appropriated will renovate only seven vice 10 95-foot WPB's and the \$7,940,000 requested for fiscal year 1980 will modernize only five vice seven cutters. Because of the significant increase in the effectiveness of our 95-foot WPB's, I intend to request funds to complete the 95-foot modernization program in future years.

Our current plan is operate six 95-foot WPB's in the Seventh District and continue using only 82-foot WPB's in the Eighth. Pending a workload study which was stimulated by our increased patrol hours, however, we may make some future reassignments of some of our 95-foot craft.

Mr. BIAGGI. Referring to the 270-foot medium-endurance cutter program, provide an update as to your plans for awarding contracts for these vessels, and a listing as to when and which vessels will be replaced.

Admiral HAYES. We do intend to procure 13 270-foot WMEC's. We are currently putting the finishing touches on an Acquisition Plan update which will seek approval of a single multi-year contract for 9 WMEC's. Our cost analysis indicates that such a multi-year contract would produce substantial savings over individual fiscal year contracts. We would hope to award the contract in December 1979 with delivery of the first cutter three years after contract award with the following cutters at four month intervals.

I would like to retain flexibility in the order of our cutter decommissioning schedule with the specific ship to be determined by the relative material condition/maintenance posture of the older cutters at the time of delivery of the 270-foot cutters. Our current tentative schedule has the five 327-foot WHEC's replaced first (*Duane, Bibb, Taney, Ingham, Campbell*) followed by the two 143-foot WMEC's (*Modoc and Comanche*), then the three 205-foot WMEC's (*Tamaroa, Cherokee, and Chilula*), our 311-foot WHEC (*Unimak*) and the two 213-foot WMEC's (*Yocona and Acushnet*). The possibility exists that with the growing operational demands on the Coast Guard fleet that we will need more than 13 new WMEC's. Initial demands may have to be met by extending the service life of the older ships.

Mr. BIAGGI. A procurement program for 30-foot surf rescue boats is included in this year's budget request. It will provide for twenty self-righting/self-bailing surf boats—for an estimated cost of \$1.8 million. Why is this program necessary? How many boats will eventually be required under this program?

Admiral HAYES. Approximately 75 percent of all lives lost occur within 3 miles of the shoreline. Many were in the coastal surf and bar conditions found in the Northwest and Northeast. Timely rescue is often critical and a high speed surf capable boat is needed. The 41 foot UTB has requisite speed but cannot operate in surf. The 44 foot MLB and 25 foot MSB can operate in the surf but they are too slow (12 and 10 knots respectively) to effect timely rescue. The 30 foot SRB represents a high speed (25 knots) surf capable boat. While lacking the navigation and endurance capabilities of the 44 foot MLB and 41 foot UTB, it will be suitable for many rescue missions. The total requirement is for 40 of these boats. The fiscal year 1980 request (20) will primarily replace 25 foot motor surf boats (shore version) and 36 foot motor surf boats.

Mr. BIAGGI. Last year, we appropriated \$20 million to commence a replacement icebreaker program for Great Lakes and ocean operations. The Coast Guard is required to award a contract by December 1980. Recently, a reprogramming of some of these funds was made to permit completion of the 140-foot domestic tug-icebreaker program. Could you provide an update on this one-vessel replacement program in light of the fund reprogramming?

Admiral HAYES. The reprogramming of funds to the WYTM program from the \$20 million appropriated for the replacement icebreaker for the Great Lakes has not slowed in any way the design efforts of the dual draft replacement icebreaker for *Westwind*. The preliminary Design Specifications Phase was completed on schedule in November 1978, and we are now into the Contract Design Specification Phase of the program. I am concerned, however, over the preliminary cost estimates that I have received for the dual draft icebreaker. I have directed my staff to reexamine alternate methods to hold down the total cost of the program. This examination will be done without interfering with or delaying current design efforts.

Mr. BIAGGI. You are requesting funding for 17 short-range recovery (SSR) helicopters, for a total to date of 32. Future funding will be required for 58 more—for a total multiyear procurement of 90 helicopters. Provide information concerning the status of this program.

Admiral HAYES. The procurement process for the SRR helicopter is entering its final phase and I anticipate contract award during June 1979. There are three offerors: Aerospatiale with their SA 366, Bell with their 222C and Sikorsky with their S-76. All are new generation light twin-engine helicopters and are capable of carrying out the full SRR mission. Deliveries should start in late 1981 at the rate of one per month for the first six months and then two per month for the remainder of the production run.

Mr. BIAGGI. You are projecting a decrease of 56 positions for search and rescue. Last year, we heard considerable comments with respect to the need not to increase the work week of SAR station personnel above 68 hours. It now appears that the work hours will stay high (which could impact on reenlistment efforts), or you will have to reduce services or close stations. Provide a review of the impact of these reductions on service to the public and on work week of station personnel.

Admiral HAYES. Our intent is to reduce the hours of operation of the selected stations to 68 hours per week to correspond with those hours that SAR services historically have most frequently been required. The work week of personnel at these stations will be reduced accordingly to 68 hours. There will be times that the stations will not be manned and services are required. Other Coast Guard facilities, including aircraft where indicated, will respond to the calls for assistance. While there may be delays in getting a boat to the scene, we will continue to respond within the two hour program standard, though more frequently with aircraft than in the past.

Mr. BIAGGI. With respect to domestic icebreaking operations, the Coast Guard evaluated the use of air cushion vehicles in 1978 and is continuing this evaluation in 1979. What is the present status of this program, and what conclusions have been arrived at?

Admiral HAYES. An operational evaluation of Air Cushion Vehicles (ACV) to break ice was conducted on the Illinois River in Peoria in fiscal year 1978. The icebreaking properties of the ACV appear adequate, however, removal of the ice remains a substantial problem. Without removal, refreezing occurs quite rapidly. During fiscal year 1979 a modest study is being commenced to evaluate the potential of utilizing an ACV for the entire year in a multimission mode alone or in conjunction with a conventional icebreaker. The potential cost-benefits of using an ACV will be developed.

Mr. BIAGGI. What are your plans for inspection of U.S. flag freight vessels being built in Korea, and how will the inspection be organized and funded?

Admiral HAYES. The ships will be inspected by personnel traveling from a Marine Inspection Office to be located in Japan. We have not selected a specific site as yet.

Other Far East inspection tasks will also be handled from this office. Beyond normal personnel costs, we have not fully determined the details of the funding requirements for this expanded activity.

Mr. BIAGGI. With respect to the Coast Guard's Marine Safety Information System, it is my understanding that the data base with respect to foreign tanker casualties and ownership is not adequate. What is being done to improve this system?

Admiral HAYES. Ownership information was at one time derived from internal sources, and based on violation reports submitted by field units. However, we recently contracted with Lloyds Registry to provide ownership data on about 21,000 vessels which will be incorporated into MSIS in a few weeks. Proposed regulations to obtain this from owners directly were not accepted by industry. Worldwide casualty history for tankers is now being obtained from Lloyds, as available, and other industry sources. It is expected that records for vessels involved in accidents in U.S. waters will be more complete than foreign incidents.

Mr. BIAGGI. The following questions relate to the drug interdiction program:

a. Have Coast Guard operational intelligence efforts been expanded in support of increased drug interdiction?

b. Have additional personnel been detailed to area or district staffs or to the El Paso Intelligence Center for this purpose?

c. Do you expect enhanced operational and tactical intelligence to increase your interdiction rate of drug smuggling vessels?

d. Would the provision of additional personnel for the analysis, coordination, and dissemination of timely intelligence information in the maritime setting increase the effectiveness of Coast Guard drug enforcement?

e. What would be a sufficient increase in the number of personnel in the intelligence function to have a demonstrable impact on Coast Guard drug enforcement efforts?

Admiral HAYES. a. Yes, Navy units are now submitting sightings to the Coast Guard.

b. Yes, six investigators will be assigned to various District staffs and a clerical billet has been provided to the Coast Guard Liaison Officer at the Naval Ocean Surveillance Information Center (NOSIC).

c. Yes, it would allow more accurate deployment of operational units.

d. Yes, the interdiction rate will increase with reliable predictive intelligence on vessel movements.

e. As an operating administration, we are primarily a user rather than a collector of intelligence information. Although we could use some additional personnel to process intelligence reports received from other sources, the most demonstrative impact on our drug enforcement efforts would be provided by assignment of additional operating personnel and equipment.

Mr. BIAGGI. The following questions relate to the research, development, test, and evaluation (RDT&E) program:

a. Has the \$5 million carryover of appropriated research and development funds from fiscal year 1978 been spent? How much of the fiscal year 1979 funds remain to be spent?

b. Are sufficient personnel now onboard to effectively spend additional R&D funds if authorized?

c. Provide a detailed list of R&D projects "backlogged" due to previous limitations and authorized funding levels.

d. What Coast Guard mission areas would most benefit by a modest increase in R&D funding—taking into consideration the existing budget carryover and the small increase in funding requested by the Administration for fiscal year 1980?

e. Would any of the following research projects be undertaken if additional R&D funds were authorized for fiscal year 1980?

1. Accelerated development of a low-cost, high-accuracy vessel traffic monitoring and surveillance system for confined and congested waters.

2. Individual or joint Department of Defense/U.S. Coast Guard study of the applications of Navy antisubmarine warfare technology such as tactical towed array sonar and sonobuoys and electronic support measures to peacetime general law enforcement missions.

3. Accelerated development of high seas oil spill containment and recovery devices.

4. Development of innovative icebreaking and ice management concepts and techniques.

5. Conduct of liquefied natural gas vapor cloud dispersion tests on water.

6. Development of user requirements for inland rivers and harbor entrance precision navigation systems.

7. Technology assessment of global positioning navigation system on the maritime community.
8. Study of anticipated requirements for protection of offshore assets.
9. Refinement and test evaluation of cutter effectiveness model as applied to advanced ship design concepts.
10. Study of port and marine firefighting requirements of traditional commercial ports.

Admiral HAYES. *a.* Actual carryover of funds from fiscal year 1978 to fiscal year 1979 was approximately \$1.3 million. To date, approximately \$12.7 million of fiscal year 1979 funds remain to be expended and no significant carryover of funds from fiscal year 1979 to fiscal year 1980 is expected.

b. With the additional 22 people provided in fiscal year 1979, the RDT&E workforce is closely matched with the current level of funding. Although a modest increase in funds for new or expanded projects could be absorbed, a significant increase would require additional personnel.

c. There are, of course, always more projects than funds available. This budget reflects our best estimate of highest priority R&D within current funding. I would like to provide for the record examples of projects that could be considered backlogged due to limited funding.

[The information follows:]

Search and rescue.—Boat Crew Human Factors.

Aids to navigation.—LORAN-C Precision Navigation; and Global Positioning Navigation.

Domestic ice operations.—Ice Property Research.

Commercial vessel safety.—Dispersal Behavior of Hazardous Material; Hazardous Material Containment; Vessel Damage Resistance; Structural Loading Effects; Vessel Stability; and Fire Fighting Techniques.

Recreational boating safety.—Education Methodology; and Personal Flotation Devices.

Port safety and security.—Vessel Traffic Services; and Waterfront Facility Protection.

Marine environmental protection

Prevention and enforcement.—Hazardous Substance Detection and ID.

Response.—Cold Weather/Ice Environment; Heavy Weather Response; Tanker Off Loading Capability; Oil Water Separator Devices; Additional Oil Cleanup Techniques; Disposal of Oil and Hazardous Substances; and Personnel Protection for Hazardous Substances.

Abatement.—Vessel Oil Pollution; and Solid Waste Disposal.

Communication systems.—Command and Control.

Multi mission.—Technology Forecasting; Assessment/Feasibility of New Concepts; Surveillance; and Advanced Marine Vehicles.

Energy.—Fuel Water Emulsions.

d. Oil pollution response, precision navigation, Vessel Traffic Services, and Commercial Vessel Safety would most benefit by any increase in funding.

e.1. Funds could be used for LORAN C VHF/FM data retransmission for tracking and surveillance purposes in our Vessel Traffic Services project.

e.2. No, we have already looked into this area and this is not a high priority research area in the near term.

e.3. Yes, we could look at additional alternative devices and techniques.

e.4. Although not one of our highest priority efforts, additional funding could be used for developing analytical tools for studying icebreaker performance and research into auxiliary icebreaking devices.

e.5. No, we are on target with our LNG research plans.

e.6. Yes, development of low cost user equipment is one of the most important elements of our LORAN-C precision navigation research.

e.7. Yes, Global Positioning Navigation research is a parallel effort to LORAN-C precision navigation. We are looking for similar answers in the same time frame.

e.8. No, R&D plans are not developed to a level where funds could be expended in fiscal year 1980.

e.9. No, we have no immediate R&D plans in this area and plans could not be developed in time for fiscal year 1980 funding.

e.10. No, additional funds would be better utilized in one of our higher priority research areas.

Mr. BIAGGI. The Administration's proposed alternative to state boating safety assistance is increased liaison with state boating safety programs. What additional resources—such as the development of Coast Guard boating safety detachments—are proposed to effect this increased liaison?

Admiral HAYES. No additional resources are programmed. In fiscal year 1978 and fiscal year 1979 six additional billets were added at the District level for State liaison to try to insure uniformity between states and the most effective use of the resources for accident investigation and enforcement of regulations. We already have liaison programs in effect. States are being invited to attend the National Boating Safety School. BOSDETS & District Boating Safety Seminars are also providing additional training to State representatives.

Mr. BIAGGI. Is it correct that virtually all of the 6 percent annual rise in Coast Guard search and rescue cases is attributable to recreational boating accidents?

Admiral HAYES. Yes, the 6 percent overall increase is primarily driven by recreational boating. However, the increase in Search and Rescue incidents correlates with the increase in the number of boats.

Mr. BIAGGI. Do you favor the termination of the existing boating safety assistance grants program and its replacement with a trust fund concept, earmarking a portion of the federal motor fuels tax revenue for state boating safety programs?

Admiral HAYES. I favor termination of the Boating Safety Assistance Grant program as I feel that the states are in a position to take over their own Boating Safety Program. I do not feel that we should endorse a trust fund concept unless our current estimate of State ability to conduct successful programs is proven incorrect.

Mr. BIAGGI. Could you provide us with a detailed listing of what additional information, if any, will be in any broadened Marine Safety Information System and how you intend obtaining this information?

Admiral HAYES. The Long Range Marine Safety Information System which has been under development since prior to the Presidential Initiatives of 17 March 1977, will encompass the information in the existing information system, will contain more data for those items in the existing system, will have additional data supporting several program areas, and will have enhanced capabilities in support of a broad scope of management objectives.

With respect to an expansion of some of the data in the present information system, many of the same data sources will be utilized but more of the data concerning each incident will be transcribed into an automated format in the larger system.

Additional data areas include a great deal of commercial vessel safety activity where involvement with U.S. flag vessels begins with the plan review process before construction and continues through other activities such as construction, admeasurement, documentation, certification, re-inspection, dry dock examination, casualty or pollution investigation, and the like, until a vessel is scrapped. All of these activities will be captured by way of direct input from field, district or headquarters units as appropriate. Similar information for non-U.S. flag vessels will be captured from a variety of information sources, both internal and external to the U.S. Coast Guard.

The management oriented aspects of such a system have not been ignored in the system design and the ability to measure program performance for evaluation against program standards has been much expanded over existing systems. The Long Range Marine Safety Information System is one of the major components in the integrated USCG operational computer center concept.

Mr. BIAGGI. Could you provide us with a detailed listing of what is in the present Marine Safety Information System and how it is obtained?

Admiral HAYES. The present Marine Safety Information System was created by means of modifications and enhancements to the capabilities of the Port Safety Reporting System, an existing system that had computer terminals and communications at U.S. Coast Guard Captain of the Port Offices. The modifications were performed in response to the 17 March 1977 Presidential Initiatives for Tanker Safety and Prevention of Pollution from tankships. The basic categories of information in this system are histories of a vessel's violations, pollution incidents, casualties, and boardings and examinations. I would like to provide a brief description of each for the record.

[The information follows:]

The Violation History of a vessel is derived from the Violation Reports submitted by field units and fed into the system. This report also provides other information, such as SOLAS information and expiration dates, as well as responsible party and involved party data. Information regarding the latter category is also received in letters from Coast Guard Districts with respect to action taken by a District Hearing Officer.

The Pollution History, also a part of the MSIS data base, is the pollution record of a vessel in United States waters and is obtained from the Pollution Incident Reporting System (PIRS).

The Casualty History of a vessel is compiled from several sources of casualty data, the primary source being USCG vessel casualty reports and the secondary source is casualty information developed by Lloyd's Intelligence Service, data which is published in Lloyd's List and Lloyd's Weekly Casualty Reports. USCG vessel casualty reports only contain foreign vessel casualty data when the incident occurs in U.S. waters, and therefore the selected utilization of Lloyd's information was necessary to develop a more comprehensive record for vessels whose preliminary record warranted additional information.

The Boarding/Examination History is one portion of the system in which data from USCG field units is entered on a real-time basis. This degree of timeliness was considered essential in a system of this nature so as to permit a subsequent port to be able to ascertain the exact status of a vessel based on information that was current. This information consists of the types of boardings or examinations performed aboard a vessel and the results or conditions found during these encounters.

A recently executed contract with Lloyd's Register of Shipping has served to provide data for input to this system. This data will provide the system with updated information with respect to name changes, registry and call sign changes, and other ships characteristics data important to a system of this overall nature.

Mr. STUDDS. In the President's March 17, 1977 statement on oil pollution, he promised action "to require that the names of tanker owners, major stockholders, and changes in vessel names be disclosed and included in the Marine Safety Information System."

On April 13, 1978, thirteen months later, the Coast Guard issued a proposed rulemaking to this effect, stating that "knowing the names of the vessel since it has been in operation will enhance the Coast Guard's capability to identify chronic polluters so that the appropriate measures can be taken to minimize oil pollution. Knowing the owner and charterer of the vessel will enable the Coast Guard to contact the party responsible for the vessel in the event of a pollution incident or the threat of a pollution incident. Knowing the country of current registry will facilitate appropriate contact which may be necessary to avoid or mitigate damages. In addition, identifying the responsible parties may result in fewer ships being operated in a condition jeopardizing the environment."

Why, on January 29, 1979 did the Coast Guard withdraw the proposed rule and abandon the effort to fulfill the President's promise?

Admiral HAYES. To implement the Presidential Initiatives, the Coast Guard by September 1977 had converted an existing system into the Marine Safety Information System (MSIS) meeting most of the parameters set forth in the Initiatives except the inclusion of major stockholder information on tank vessels. The Coast Guard's April 13, 1978 Notice of Proposed Rulemaking (NPRM) proposed a requirement that all oil tankers of 20,000 DWT and larger carrying oil to the U.S. report certain information 24 hours prior to entry into the United States. This information, which was proposed to be provided to the Captain of the Port (COTP) or directly to the MSIS, included each vessel's nation of registry, each name by which it had been known, and information concerning its owners and charterers. Extensive opposition to the proposal came from foreign governments, the State Department, the Council on Wage and Price Stability, maritime interests and others. Among the reasons for opposition were that costs to the industry and government of carrying out this proposal would exceed any possible benefits, it would be difficult to continually provide percentages of ownership (which may change on a day-to-day basis), it would be impossible to obtain ownership information when ownership interests are evidenced by bearer certificates (ownership of which may be known to no one other than the possessor), and the public availability of this information would facilitate illegal boycotts of certain vessels.

Simultaneously, Congress and the President were providing, for the first time, an explicit statutory basis for the MSIS. This occurred on October 17, 1978, when the President signed into law the Port and Tanker Safety Act of 1978 (PTSA) (P.L. 95-474, 92 Stat 1471). Section 5(16) of that Act mandates the establishment of the MSIS and authorizes the inclusion of tank vessel ownership information and Federal Maritime Commission Certificate of Financial Responsibility information in the system. This legislation could have been interpreted as mandating some form of Coast Guard implementation of the stockholder ownership provisions of the Initiatives and the NPRM. However, Senator Warren Magnuson, primary Senate sponsor of the PTSA, provided explicit legislative history to the contrary. During Senate passage of the PTSA, he stated that the MSIS tanker ownership provision was not intended to mandate obtaining stockholder information and that such information should be sought only if the need for it became apparent.

All of these developments were considered by the Coast Guard and led to the withdrawal of the proposed rule. The names of vessel owners have been obtained

from Lloyd's Register of Shipping and the Federal Maritime Commission. The names of stockholders and corporations owning vessels would be impractical, and in many cases impossible, to obtain.

At this time, the Coast Guard has all of the information addressed in the Presidential Initiatives and the NPRM, except stockholder and charterer information. Vessel owners are known, and vessel name changes are traceable through the information obtained from Lloyd's. Extensive casualty, pollution and violation histories of vessels are in the MSIS. Requiring the additional stockholder and charterer information contained in the NPRM would serve no useful purpose. Obtaining that information, even if possible, would not assist the Coast Guard in preventing or responding to pollution incidents. Even if an effort were made to obtain disclosure of ownership information, individuals could evade the regulations through layers of corporate ownership.

QUESTIONS OF MR. STUDDS AND ANSWERS

Mr. STUDDS. If the justification is that the information is available from other sources, could you tell us who owned stock in Thebes Shipping?

Admiral HAYES. As I indicated earlier, the MSIS contains the name of the owner of each vessel, but does not contain the names of stockholders of corporate owners.

Mr. STUDDS. If the problem is that it is simply too difficult to get accurate stockholder information; i.e., not worth the trouble, for all tankers, would it be possible to begin compiling for the record stockholder information simply about vessels which have been involved in some sort of quasi-serious vessel violation? Wouldn't this help put the spotlight on the real owners who might be responsible for a whole string of shoddy operations, such as AMERSHIPS, the operators of Thebes and a series of other one-vessel companies?

Admiral HAYES. The Ports and Waterways Safety Act, as expanded by the Port and Tanker Safety Act, gives the Coast Guard extensive authority to regulate vessels which pose a threat to United States interests. I am satisfied that the information now contained in the Marine Safety Information System (MSIS) is sufficient to identify those vessels which pose risks to the marine environment or the safety of port areas by virtue of their pollution, violation, casualty, and boarding/inspection histories. Additional ownership information would be of little, if any, use to the Coast Guard.

Mr. STUDDS. What about the alternative mentioned in the course of the Coast Guard's hearings on this subject, in which one of the host of maritime lawyers who testified suggested that, in lieu of ownership information you at least have on record the name of one individual for each vessel who is authorized to make ownership-type decisions for the vessel; i.e., power of attorney decisions. This suggestion was backed up, was it not, by the testimony of a Coast Guard captain that the agents who are currently designated are usually without authority to make decisions? Couldn't you present companies with the choice of designating someone of real authority or else revealing true ownership information?

Admiral HAYES. In light of the extensive authority which the Coast Guard has under the amended Ports and Waterways Safety Act to deal with all vessels, it is unnecessary to establish a system of fully empowered vessel agents or alternative disclosure of stockholder information. Coast Guard action against the vessel and the persons immediately in charge of the vessel will sufficiently protect the marine environment, and the impact of those actions ultimately will be felt by the vessel owners.

Mr. STUDDS. Why did the Coast Guard decide to give up on this proposal? Was there disagreement about the decision within the Coast Guard? Did DOT have any input?

Admiral HAYES. There was some disagreement in the Coast Guard concerning the original issuance of the NPRM. This was due to doubts concerning its practicability, its costs and its effectiveness. It was decided to make a good faith attempt to carry out the Presidential Initiative on the subject of tank vessel stockholder information. However, the very informative public input received in response to the NPRM, both in written comments and at three public hearings, reinforced some of the original doubts concerning the NPRM. There were no disagreements within the Coast Guard concerning the decision to withdraw the proposed rule. I concurred with the opinion of my staff that the NPRM should be withdrawn since vessel ownership information would be of little additional value and the costs associated with maintaining this kind of information were determined to be prohibitively high. My staff previously had been in contact with the DOT Assistant Secretary for Administration about the

concerns of the Council on Wage and Price Stability both on the cost and the effectiveness of the NPRM proposal.

QUESTIONS OF MR. McCLOSKEY AND ANSWERS

Mr. McCLOSKEY. You are requesting a commissioned officer ceiling increase from 5,000 to 6,000, acknowledging that you will exceed presently authorized levels upon graduation of this year's Academy class. Should the fiscal year 1980 authorization not become law before then, will this impede commissioning?

Admiral HAYES. At the beginning of fiscal year 1979 it appeared that we might exceed the 5,000 officer ceiling by a small amount at the end of May 1979 since the Academy graduation and an Officer Candidate School (OCS) graduation were scheduled during that month. With this in mind we adopted a contingency plan whereby the OCS graduation would be delayed until after the retirements on 1 June. Due to a number of unforeseen attritions during the first half of the fiscal year, this action is not necessary this year. We will, however, have to take drastic action next year if the proposed legislation is not enacted; this action might possibly involve delaying the May 1980 Academy graduation.

Mr. McCLOSKEY. You cite an intention to charge for the overseas inspection of vessels not covered by the Port and Tanker Safety Act. What is your intention with respect to the inspection of vessels covered by this Act, overseas and domestically?

Admiral HAYES. The Coast Guard intends to continue the established practice of utilizing Coast Guard personnel to conduct boardings, examinations and inspections, in U.S. ports of all vessels to which the Port and Tanker Safety Act applies. Fees will not be assessed for accomplishment of these functions domestically.

The Coast Guard must develop standards and guidelines for conducting the special and detailed inspections of structural strength and hull integrity of tankers of 10 years of age and over. In the case of foreign flag tankers it is anticipated these inspections will normally be conducted in foreign countries by contract surveyors. Reasonable fees will be established for accomplishment of these inspections.

It is anticipated that an occasional inspection of a U.S. or foreign flag tankship subject to the Act will be conducted in a foreign country by Coast Guard marine inspection personnel. The Coast Guard intends to charge for the expenses incurred in providing these personnel.

Mr. McCLOSKEY. You ask for legislative relief for the sole active duty lighthouse keeper—on the ground of equity. Are there any retired lighthouse keepers for whom this action would result in a significant disparity?

Admiral HAYES. The answer to your question is "no", and I say that for the following reasons. This individual is the last remaining civilian lighthouse keeper employed by the Coast Guard. All of the financial benefits of the proposed legislative change will accrue solely to him. There are at present no individuals on our retired lighthouse service rolls whose pay as lighthouse keepers had been artificially restricted by a statutory pay limit. The most recent retirement of a lighthouse keeper occurred in 1973.

That individual's salary at retirement was \$6,763 per year, and he has since died. Had there been other keepers who retired while their salary was limited to the present \$7,500 figure, we would have felt obligated to grant them the same relief. As a point of information, our lighthouse annuitants receive the same semi-annual increases, March and September, as are granted to retired General Schedule or GS employees. And, as you know, GS annuities are increasing at a faster rate on a percentage basis than are the salaries of GS employees. Thus we feel that this individual, by virtue of the statutory limit on his pay, is being unjustly penalized. While GS employees are receiving their regular October pay increases and retirees are receiving their March and September annuity increases, this individual has not had a pay raise since 1974.

Mr. McCLOSKEY. You cite an intention to "Draw Down" on personnel assigned to certain operating units to cope with more limited operating funds. In such cases will you have any backup from either the Coast Guard Auxiliary or Reservists? Will this draw-down affect vessels or only shore stations?

Admiral HAYES. This draw-down will affect only shore stations where a continuous search and rescue readiness requirement is not warranted. It will not affect cutters or aircraft. We do plan to use Reservists and the Coast Guard Auxiliary to augment the stations affected to the maximum extent possible.

Mr. McCLOSKEY. You point to three major hardware buys—medium endurance cutters and aircraft. I am concerned about another increments of cost that should concern this Subcommittee specifically and in principle. This concern applies to the construction and design of a replacement Great Lakes icebreaker for which \$60 million has been authorized and \$20 million appropriated. I am advised that the 1977

estimate of \$56.4 million is expected to rise to some \$100 million by 1981. Obviously, inflation is a factor, but to what extent does the sophistication of your design affect this cost? Can you develop a design sufficient to achieve basic icebreaking objectives with options for this Subcommittee to accept or reject in an effort to control spending?

Admiral HAYES. We are actively working to reduce the price of the replacement icebreakers. You can be assured that the final design will be free of costly advanced technologies. The \$56.4 million cost estimate to which you refer was prepared in 1977 as part of the conceptual design. It was the basic ship's estimated cost expressed in March 1977 dollars. At that time, the effect of inflation from March 1977 to the time of delivery was expected to raise the estimated contract cost to \$86.6 million. The inflation percentages used in this estimate are U.S. Navy forecasts for shipbuilding based upon the data generated by the U.S. Bureau of Labor Statistics for the shipbuilding industries. In addition, based on historical data from previous shipbuilding contracts, we expected to incur about \$13 million in contract related costs. Thus it is reasonable to expect that a 1977 basic ship estimate of \$56.4 million could cost about \$100 million as the result of inflation experienced in the shipbuilding industry without any consideration of sophistication. I am as anxious as you are to hold down these costs and will insist that we meet our operational needs at the lowest cost.

Mr. McCLOSKEY. What is the operating condition of the *Polar Star* and *Polar Sea* one or both of which I am told have aborted an Antarctic mission and are en route back to a Seattle shipyard?

Admiral HAYES. As a result of *Polar Star's* December 1977 trials, additional modifications to the propellers and stiffening of wing shaft thrust bearing foundations were completed in November 1978 and on the other vessel, *Polar Sea* in January 1979. On January 9, 1979, shortly after beginning the channel break into McMurdo Station, *Polar Star* experienced a starboard propeller malfunction. After experiencing similar malfunction symptoms on the remaining two shafts, *Polar Star* departed Antarctica and proceeded to Seattle where she is currently preparing for drydocking. Special efforts are underway to resolve the *Polar Class* propeller problem on a high priority basis. A special task team has been established for this purpose.

The *Polar Sea* is currently engaged in Arctic West Winter operations in the north Bering Sea. To date, *Polar Sea* has not experienced any major propeller difficulties. However, current *Polar Sea* operations are being conducted in relatively moderate ice conditions.

Mr. McCLOSKEY. What is your retention rate for female and male enlisted personnel, and to what extent are you meeting recruiting goals in both of these areas?

Admiral HAYES. The male and female first term reenlistment rates for fiscal year 1978 and the first 4 months of fiscal year 1979 are:

[In percent]

	1978	1979 (Oct.-Jan.)
Male.....	25.1	18.0
Female.....	29.9	17.9

The Coast Guard recruiting program is such that we seek to attract all qualified candidates and select the best qualified of the applicants. There is no male/female quotas, per se, only an overall goal determined by service needs. In fiscal year 1978 we enlisted 100.1 percent of our recruiting goal and in the first four months of fiscal year 1979, 91 percent of the goal has been met.

Mr. McCLOSKEY. How does your airborne sensor package AIREYE function? Will it be capable of detecting small search objects?

Admiral HAYES. The AIREYE sensor package includes a package of sensors designed to interface with the HU-25A aircraft. A side looking airborne radar (SLAR) will be employed for day/night, all weather long range detection and mapping. The infrared/ultraviolet line scanner (IR/UV-LS) will be a short range detection instrument. Heat radiated by an oil spill is detected by the infrared channel while reflected ultraviolet light is detected by the ultraviolet channel. A KS-87B aerial camera will be employed for taking high resolution photographs of oil spills and cleanup activities. An active gated television is being developed for inclusion in the package as the fourth sensor. This sensor will be able to identify pollution violators at night. Though AIREYE is being developed specifically for the marine environmental protection mission, it will benefit other mission areas as well. Most of these sensors have already been employed on the Coast Guard's Airborne Oil Surveillance

System (AOSS). This sensor system is currently operational on an HC-130B aircraft. Individual AOSS sensors have been successfully employed for search and rescue, International Ice Patrol, and marine science activities. The AOSS presently has the capability to detect small objects on the open sea and AIREYE will have this capability as well.

Mr. McCLOSKEY. What is the "mild revolution in the way the Coast Guard conducts its operations" that is referred to in the Commandant's opening statement?

Admiral HAYES. I was referring the AIREYE—Airborne Remote Instrumentation System—which is in advanced development for use with the HU-25A Medium Range Search Aircraft. When fully operational we will have a remote, day/night, wide area, airborne surveillance system which will detect, map, identify and document targets. While developed primarily for oil pollution purposes, it will provide capabilities in support of most Coast Guard missions. Basically AIREYE will greatly enhance what can be observed visually and will provide a night time capability not presently available.

Mr. McCLOSKEY. The Commandant's State of the Coast Guard Address appears to endorse efforts to reduce the impact of regulations on industry and to promote legislative reform with the aim of eliminating manpower intensive laws whenever possible. When will the Coast Guard management staff be ready to work intensively with the Subcommittee staff to achieve these objectives?

Admiral HAYES. We are preparing to submit legislative proposals affecting the admeasurement and documentation of vessels, inspection of factory manufactured equipment, and the "signing on" of crewmembers on merchant ships soon. We are willing to work with the staff at anytime.

Mr. McCLOSKEY. Do you see any opportunity to rely more heavily upon recognized classification societies, as the American Bureau of Shipping, to reduce Coast Guard workloads in the marine safety field; particularly, in plan review and construction areas?

Admiral HAYES. We are presently studying this matter to determine whether or not any additional inspection and plan review functions could be transferred to recognized classification societies. During the course of these deliberations, the following concerns have arisen which indicate that this matter must be handled with great care to ensure that the transfer of further functions does not prove counterproductive:

(1) The Coast Guard is perceived as an organization with a high degree of expertise in vessel construction, design and operations. Much of this expertise is obtained by reviewing plans and inspecting vessels. If we delegate many more of these functions to other agencies, we will be unable to maintain our level of expertise and live up to expectations of performance.

(2) Any consideration of further delegation of authority to third parties must also consider the well established fact that it was the failure of such agencies that led to the present U.S. Coast Guard inspection of foreign flag passenger vessels in 1977.

(3) I am not empowered to delegate my authority. If additional inspection functions were delegated to classification societies, we would have to institute monitoring procedures. The monitoring procedures in themselves would require a fairly large Coast Guard complement. The end result might very well result in a minimal saving of resources.

Mr. McCLOSKEY. Workloads in the field of environmental protection, especially dealing with oil pollution, are increasing. Does this suggest that new regulations and monitoring efforts are ineffective and that some new cure is in order?

Admiral HAYES. No new regulations are considered necessary. The existing oil pollution prevention regulations in 33 CFR 154, 155 and 156 are currently being revised, and a proposal to extend them under the Clean Water Act of 1977 will be submitted after the revision is final. More effective enforcement of the existing regulations is occurring as more experience is gained. With respect to surveillance efforts, the Coast Guard is expanding its activities through the procurement of six new AIREYE sensor systems. Most pollution surveillance currently conducted is done visually. This method is effective only during daylight hours and good weather. An AIREYE equipped aircraft will be able to survey four times more area than an aircraft not so equipped. The AIREYE sensor system will also possess a day/night, all weather detection, mapping, and identification capability, making this surveillance method many times more effective than those currently employed.

Mr. McCLOSKEY. What are the Coast Guard programs in the polar regions, and has any effort been made to apply benefit/cost analysis to your work in these areas?

Admiral HAYES. Coast Guard programs in the polar regions consist of limited facilitation of commerce in Alaskan waters and support of other Coast Guard missions plus icebreaker support provided to other government agencies. Icebreaker

support of other agencies breaks down into two categories, logistics resupply and scientific research support. The major users are the Defense Department and the National Science Foundation. Together, these two agencies accounted for 82 percent of the ship-day support accumulated during fiscal year 1976-78. DOD support includes resupply of Arctic Dewline stations and defense related research. NSF support includes the logistic resupply of the U.S. station at McMurdo in the Antarctic, as well as support of extensive scientific research. Research projects of other agencies, such as NOAA, NMFS and MARAD, are periodically supported in polar waters which are normally inaccessible or prohibitively hazardous to conventional research vessels.

Benefits of Coast Guard support of Polar activities are difficult to quantify. However, both DOD and NSF analyses indicate that marine transport with ice-breaker support is by far the most cost-effective means of accomplishing the required logistic support. In any event, DOD and NSF must justify these activities in their own annual budget submissions to the Congress.

Mr. McCloskey. Is there a continued need for the International Ice Patrol effort with surface surveillance? Please provide a statement of cost associated with this effort and a breakdown of payments made by other signatory countries in support of the program—I note that aircraft hours remain constant whereas ship operating hours reflect increasing activity. Was this necessitated by anticipated heavier ice conditions or as a result of new program activity?

Admiral HAYES. The International Ice Patrol (IIP) is presently conducted by visual aerial surveillance of the Grand Banks. Fog and cloud cover reduce visibility during extended periods of the ice season, necessitating reliance on computerized plotting of icebergs. Surface ships are employed to determine the oceanographic conditions which feed the computer models used to track icebergs during these periods.

A joint Coast Guard/NASA research and development effort is being conducted to provide an all-weather aerial iceberg detection/identification capability by the early 1980's, however, until this system becomes operational, the Coast Guard will continue to rely on surface patrol vessels.

Apportionment of annual IIP costs is based on the gross tonnage of shipping benefitting. The IIP costs for recent years are tabulated below. Total cost to the United States averages about 10-12 percent of the total. I would like to provide the following data for the record.

[The information follows:]

IIP COSTS DATA

Year	Length of season/ number of icebergs S of 48 N	Total cost	Unreimbursed cost to U.S.
1977	97/22	\$1,300,065	(¹)
1976	123/315	1,288,413	\$135,994.00
1975	112/100	1,273,993	117,350.02
1974	145/1386	967,888	94,365.00
1973	188/847	1,700,053	182,716.67
1972	189/1587	1,287,464	91,325.26

¹ Not yet available.

1976 APPORTIONMENT OF COST

Country of registry	Gross tonnage	Proportionate share of cost
Liberia	25,759,729	\$295,910
Norway	13,894,157	159,606
United Kingdom	13,174,173	151,336
United States	11,838,626	135,994
Greece	11,169,983	128,313
Italy	6,088,795	69,944
Federal Republic of Germany	5,642,100	64,812
Sweden	3,369,870	38,711
Spain	3,127,606	35,928
Japan	2,811,375	32,295

1976 APPORTIONMENT OF COST—Continued

Country of registry	Gross tonnage	Proportionate share of cost
France	2,623,416	30,136
Panama	2,383,220	27,377
Denmark	1,990,991	22,871
Belgium	1,556,109	17,875
Netherlands	1,463,416	16,811
Poland	1,228,674	14,114
Canada	1,102,138	12,661
Israel	1,081,643	12,425
Finland	982,139	11,282
Yugoslavia	871,538	10,012
Total cost 1976 season		1,288,413
Cost per ton benefiting		\$0.01038744
Total tonnage contributing		112,159,698
Total tonnage not contributing		11,879,518
Total tonnage benefiting		124,039,216
Percentage of tonnage contributing		90.42

The oceanographic activities annually utilize about 70 ship days. Surface patrol vessels may be required during seasons when the number of icebergs and their geographic distribution presents a particular hazard (as in 1972 and 73). An additional cutter was employed in 1975 (19 days) and 1976 (22 days) to conduct research in conjunction with IIP.

Mr. McCLOSKEY. How do you economically justify the maintenance in peacetime of a Selective Reserve force of 11,700 at a total estimated cost of \$41 million.

Admiral HAYES. The primary mission for all of the military services is national defense. The Coast Guard is assigned certain tasks by DOD to accomplish this goal. Since wartime manning requirements far exceed the peacetime requirements, the Coast Guard Reserve was established as the most cost-effective way to provide the personnel resources for the Coast Guard's wartime mission requirements.

The 11,700-member Selected Reserve fills only a portion of the total early response manpower mobilization requirements of approximately 22,000, with the remainder being filled from the Individual Ready, Standby, or Retired Reserves. It would cost approximately 210 million dollars per year to maintain a standing force equivalent to the 11,700-member Selected Reserve and over 390 million dollars to replace the entire early response requirement with active service personnel.

In addition to providing a cost-effective technique for meeting wartime requirements, the Coast Guard Reserve also provides over 1.5 million man-hours of support to the active service through augmentation and performance during domestic emergencies. Using a standard work week of 68 hours, this provides a benefit to the active service equivalent to 470 active service personnel or a benefit equivalent to \$8.5 million per year. Since a majority of this augmentation is oriented toward peak periods, the actual savings compared to costs of providing an equivalent number of active service personnel is considerably higher.

I would like to provide for the record some recent examples of the augmentation and emergency duty support provided by the Coast Guard Reserve.

[The information follows:]

May 1978: Mobile, Ala.—The Friday before the Memorial Day weekend a ship struck a fuel pier in the Port of Mobile dumping 85,000 gallons of fuel and crude oil into the harbor. Within twenty minutes, reservists started reporting to the spill site and remained there throughout the three-day holiday.

May 1978: Seattle, Wash.—When a court decision increased the scope of the Coast Guard's role in management of fisheries, sixteen reservists were voluntarily activated for eighteen weeks to provide direct and indirect support for the active Coast Guard units involved.

Summer 1978: Harbor Beach, Mich., Manistee, Mich., and Plum Island, Wis.—For the sixth straight year reservists fully manned and operated these Search and Rescue stations during the period 15 May through 31 October.

Summer 1978: Osterville, Mass.—For the third straight year reservists have fully manned a Search and Rescue Substation in this community. During this fiscal year

reservists from this Substation responded to 91 cases involving 245 persons and property valued at over 1.8 million dollars.

Summer 1978: Atlantic Beach, N.Y.—For the third year, the five-man regular cadre at this station was augmented by an average of eighteen reservists at all times during the five-month summer SAR season. During this fiscal year the station successfully concluded 236 SAR cases.

Mr. McCLOSKEY. Will the discontinuance of State Boating Grants program result in a reduction of State patrol efforts, and consequently increased workload for Coast Guard SAR facilities?

Admiral HAYES. States patrol state waters as well as waters of joint jurisdiction. Coast Guard facilities would therefore not be available in many areas in the event State patrol efforts were reduced. Our impression, however, is that State law enforcement programs would maintain a high priority for available State boating safety funds.

Mr. McCLOSKEY. Upon commissioning of the 140-foot tug, *Katmai Bay* (homeported at Sault Ste. Marie), what are your plans for the 110-foot tug it replaces? Will it be reassigned to another port area in Lake Superior or elsewhere on the Great Lakes?

Admiral HAYES. USCGC *Naugatuck* (WYTM-92) will be decommissioned on or about June 15, 1979 in Sault Ste. Marie. Upon decommissioning, *Naugatuck* will be transferred to GSA for disposal as excess government property. An engineering investigation was conducted recently to determine if *Naugatuck* should be transferred to the east coast to replace one of the other 110-foot WYTMs. The results showed that such a transfer would not produce any significant operational or economic benefits. Therefore, a decision was made to decommission *Naugatuck*.

Mr. McCLOSKEY. Some \$300,000 is being requested for real property acquisition. Where are the sites located, and to what use will they be put?

Admiral HAYES. Current planning is to procure land in support of the fiscal year 1981 family housing program. Probable sites are St. Ignace, Michigan, Cheboygan, Michigan, and Ocean City, Maryland. Additionally, funds will be required to procure options on land for operational projects planned for future year construction.

Mr. McCLOSKEY. Will public notification and impact review be accomplished prior to the start of lighthouse automation efforts covered in AC-48?

Admiral HAYES. Yes, they will, as has been the case in all previous automations.

Mr. McCLOSKEY. How much of your R&D work is accomplished by outside contract?

Admiral HAYES. In fiscal year 1977 44 percent of our R&D project work was contracted to the private sector. In fiscal year 1978 this figure was 42 percent. A similar figure is projected for fiscal year 1979. The remainder was conducted through interagency agreement with other federal agencies, through the Department of Transportation's Transportation Systems Center, and through our in-house R&D facilities at Groton, Connecticut and Mobile, Alabama—the Fire and Safety Test Detachment.

Mr. McCLOSKEY. Will your shipboard pollution abatement holding and transfer installation also take care of so-called "gray water" discharges such as shower and diswashing drainings, considered to be a problem in fresh water areas?

Admiral HAYES. Yes it will, but the system was not intended to collect both sewage and gray water at all times. Gray water would be collected in port with a shoreside sewage collection to eliminate overboard discharge of gray water in port. Sewage and garbage grinder drains are collected at all times. "Gray" or turbid water would be discharged overboard when not in port. Since "gray" water has a higher volume than sewage, collecting it would severely reduce the holding time for sewage.

AD HOC COMMITTEE FOR PORTS AND WATERWAYS,
April 10, 1979.

HON. MARIO BIAGGI,
Chairman, Subcommittee on Coast Guard and Navigation,
Longworth House Office Building Washington, D.C.

DEAR CONGRESSMAN BIAGGI: As members of the Ad Hoc Committee for Ports and Waterways, we were furnished a copy of your letter to Mr. William E. O'Neil dated March 6, 1979, regarding the Ad Hoc Committee's request to testify before your subcommittee. We are disappointed that we were not present to testify at the hearing and are quite concerned that your quoting of the Coast Guard's opinions regarding our statistical analysis, GAO's pending report, need for the radar at the Head of the Passes, opinions on the collision on November 9, and the Coast Guard's participation figures, implies endorsement. If that is the case, it is unfortunate our

views were not heard by your Subcommittee, thus reducing the necessary amount of information your committee needs to formulate such an important opinion.

If the United States Coast Guard was allowed to take issue with the Ad Hoc Committee's views at the recent hearing, it seems it would have been in order for your Subcommittee to have invited the Ad Hoc Committee to testify in order to receive a balanced view without the Ad Hoc Committee having to make the request to appear. Since we were not in attendance, would you kindly place this letter into the record for the subcommittee's review.

It was interesting, but understandable, to note the Coast Guard took issue with the Ad Hoc's views, but had we been there to testify, your committee would have learned that the opinions presented by the Coast Guard employee, who has never been on the Mississippi River in New Orleans, Louisiana, holds no license or document qualifying him to make such decisions, and who single-handedly formulated the opinions delivered to your committee by the Coast Guard on which casualties were preventable or nonpreventable. This person additionally has no inland water transportation background. The Ad Hoc Committee's statistical analysis, on the other hand, was made by a person who has transited the Lower reach of the Mississippi River many times, holds a First Class pilot license, any gross tons, and has been actively engaged in inland river operations since 1958. This person has been qualified in the past as an expert witness involving navigation and operations in legal matters, and reviewed the casualties, spending approximately 40 hours to reach the honest and fair conclusions as presented by the Ad Hoc Committee. Furthermore, the opinions presented by our Committee were endorsed by many people, too numerous to mention, with similar professional backgrounds.

It was expected the Coast Guard would be sensitive to any views regarding GAO's draft report. Vice Admiral Robert I. Price, Commander of the Third Coast Guard District, at a recent Industry Day luncheon in St. Louis, Missouri, left little doubt in the audience's mind that the Coast Guard considered the GAO report "a piece of crap." Admiral Price publicly chastised GAO personnel and accused them of judging the Coast Guard's ability without having any expertise in the maritime field. It is ironic the Admiral would subscribe to such a philosophy on one hand and then support statistics generated by the United States Coast Guard as a result of the opinions of a person within their ranks who knows virtually nothing about commercial navigation on the Lower reach of the Mississippi River.

We get a very ill feeling in our stomachs when we see, from your letter, that the USCG is once again using a recent casualty as a possible avenue to perpetuate the ill-designed and poorly conceived New Orleans Vessel Traffic System. It is strange that the Coast Guard would label this casualty preventable, since both vessels were in contact with each other and knew one another's positions. It is also interesting to see them once again quoting participation figures of 67 percent, when there is no statistical way to measure participation vs. nonparticipation in the New Orleans VTS.

Had our Committee been able to testify at your hearing, you would have also learned that Commander Ben Joyce, Commanding Officer of New Orleans Vessel Traffic Service, stated that the statistical foundation on which New Orleans VTS was built was exaggerated.

Why, Sir, why, does the United States Coast Guard continue to try and make a silk purse out of a sow's ear with the New Orleans VTS? Navigational safety, especially in the port of New Orleans, and the facilitation of commerce are vital elements in this nation's economic welfare.

Considering that 37 percent of all the grain exported from this country has to pass through the Port of New Orleans and principally Pilottown, where radar is proposed, it is easy to see how important the area is to President Carter's goal of increasing exports. After all, when the President asked Congress and the American people to increase exports to help the balance of payments, he was not talking about selling TV sets to the Japanese. He was clearly referring to agricultural exports.

With all the controversy over the expenditure of monies and development of the New Orleans VTS, the Sub-Committee must share some of the doubts of the Ad Hoc Committee and countless affected parties. Your Sub-Committee has received endless testimony at hearings from experts in the maritime field, both in Washington and New Orleans, adamantly opposing the structure of New Orleans VTS and especially expressing opposition to the installation of radar at the Head of Passes. These witnesses have repeatedly explained how such a radar installation will provide no benefit and have shown where such expenditures utilized elsewhere in the New Orleans VTS area would yield a more positive result.

At a time when we see our government picking up a larger share of the gross national product as a result of our trade deficit and failure to balance the federal budget, is this the time to be spending additional monies on questionable expendi-

tures such as New Orleans VTS? Is this the time to impose upon the maritime community, one that is our current pipeline to economic stability, an operation that could seriously affect the safety and productive outflow of exported commodities, not to mention those returned, such as imported oil? I say it is not! We simply cannot afford to take those types of gambles if we are to meet the demands of our nation's budget. Let's spend monies only in the areas where there is a solid productive atmosphere, not where the expenditure could have a "double barreled" negative effect on our gross national product.

Admiral Robert I. Price, U.S.C.G., recently stated, "we are 20 years behind European countries in the development of VTS." The admiral seemed genuinely concerned with the United States' inferior position and implied that we must close the gap. He even pledged that if the New Orleans VTS does not prove successful, the United States Coast Guard will make the necessary modifications to "straighten it out."

I think your committee should take Admiral Price up on his promises and let's "straighten out" New Orleans VTS. It is not going to be done by continuing to pour more money into a system that is "20 years" behind our European counterparts. Let's look toward solutions that will place us 20 years ahead of others, not simply play catch up with already antiquated equipment.

If the Europeans are 20 years ahead of us in the development of VTS, then the state of the art solutions available to us in America today are 20 years ahead of that. Why continue to invest good money after bad?

We are opposed to any continued funding of hardware for the New Orleans VTS until all associated problems have been resolved and long range solutions are in hand. The maritime mode of transportation in this country cannot continue to provide the safe and efficient service Americans have historically enjoyed if the blunderous development of such projects as we have in New Orleans VTS, is allowed to continue.

Sincerely,

ROBERT L. GARDNER, *Treasurer.*

[Whereupon, at 3:37 p.m., the subcommittee adjourned.]

The first part of the paper discusses the importance of the study of the history of the United States. It is argued that a knowledge of the past is essential for a full understanding of the present and for the development of a sound policy for the future. The author then proceeds to discuss the various factors which have influenced the development of the United States, including the role of the government, the influence of the economy, and the impact of the culture.

In the second part of the paper, the author discusses the role of the government in the development of the United States. It is argued that the government has played a crucial role in the development of the country, and that its actions have been influenced by a variety of factors, including the interests of the different groups in society.

The third part of the paper discusses the influence of the economy on the development of the United States. It is argued that the economy has played a crucial role in the development of the country, and that its actions have been influenced by a variety of factors, including the interests of the different groups in society.

In the fourth part of the paper, the author discusses the impact of the culture on the development of the United States. It is argued that the culture has played a crucial role in the development of the country, and that its actions have been influenced by a variety of factors, including the interests of the different groups in society.

The fifth part of the paper discusses the role of the different groups in society in the development of the United States. It is argued that the actions of these groups have been influenced by a variety of factors, including the interests of the different groups in society.

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"CUYAHOGA" SINKING

TUESDAY, MARCH 6, 1979

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:04 a.m., in room 1334, Longworth House Office Building, Hon. Mario Biaggi, chairman of the subcommittee, presiding.

Present: Representatives Biaggi, Murphy, de la Garza, Mikulski, and Lent.

Staff present: Ernest J. Corrado, chief counsel; Ricardo A. Ratti, chief counsel on the subcommittee; Rudy Cassini, counsel; Kai David Midboe, minority counsel; and Cyndy Wilkinson, subcommittee clerk.

Mr. BIAGGI. The meeting is called to order.

The Subcommittee on Coast Guard and Navigation is meeting today to inquire into the tragic loss of the U.S. Coast Guard Cutter *Cuyahoga*.

The *Cuyahoga* was a 125-foot training vessel stationed at the Coast Guard Reserve Training Center, Yorktown, Va. She was commanded by Chief Warrant Officer Donald Robinson. On October 20, 1978, the *Cuyahoga* was on a weekend training cruise and was proceeding up into the Potomac River to anchor for the night.

At approximately 9 p.m., she collided with the S.S. *Santa Cruz II*, a 521-foot Argentinian coal carrier. The *Cuyahoga* was pushed over on her side and sank almost immediately; 11 men from the *Cuyahoga* lost their lives as a result of this accident.

Before proceeding further, I would like to read into the record the names of the men who died. They were:

Senior Chief Machinery Technician David B. Makin of Newport News, Va.;

Subsistence Specialist First Class Ernestino A. Balina of Newport News, Va.;

Yeoman First Class William M. Carter of Newport News, Va.;

Seaman Apprentice David S. McDowell of North Chili, N.Y.;

Seaman Apprentice Michael A. Atkinson of Spencerport, N.Y.;

Fireman Apprentice James L. Hellyer, of New Castle, Pa.;

Officer Candidate Edward J. Thomason of Wichita, Kans.;

Officer Candidate John P. Heistand of Forked River, N.J.;

Officer Candidate James W. Clark of Clovis, N.Mex.;

Officer Candidate Bruce E. Wood of Bellflower, Calif.; and

Capt. Wiyono Sumalyo of Indonesia.

The subcommittee offers its sympathy to the parents, family, and friends of these fine young men. We hope that this hearing will not

only honor their memory but will also help us prevent a similar tragedy from ever occurring again.

Our chief purpose today is to inquire into the underlying causes of this accident—and to see whether those causes indicate that action is required by the Coast Guard or the Congress. We are, of course, interested in knowing what actions the Coast Guard has already taken—not only to prevent future tragedies like the *Cuyahoga*, but also to insure a high level of safety for Coast Guard afloat training generally.

We all know that the Coast Guard has important responsibilities in protecting the safety of our Merchant Marine and our ports and waterways. It can only do this effectively, however, if the Coast Guard itself maintains high standards of safety for its own ships and people. The subcommittee wants to assure itself that the Coast Guard is doing all it can to maintain those high standards—and that it is not being hampered in its efforts by any lack of resources.

This hearing was requested by Congresswoman Barbara Mikulski and Congressman Robert E. Bauman.

The subcommittee delayed this hearing until now so that it could have the benefit of the investigations held by the Coast Guard and the National Transportation Safety Board. Those investigations have now been substantially completed, and the subcommittee has been furnished with a copy of the transcript of the testimony taken at the joint Coast Guard-NTSB investigation.

In addition, we have available to the subcommittee the report to the Secretary of Transportation on the safety of afloat training in the Coast Guard. This report resulted from a study ordered by the Secretary as a result of his concern over the safety of the training given entering Coast Guard personnel on other floating units of the Coast Guard.

Our witnesses today include representatives from the Coast Guard and the National Transportation Safety Board. Our first witness is Admiral John B. Hayes, Commandant of the Coast Guard, who I hope will give us a brief outline of the facts of the accident itself.

Before we hear from the Commandant, I wonder if any of our members have a statement to make?

Mr. MURPHY. No.

Mr. BIAGGI. Mr. Lent?

Mr. LENT. No.

Mr. BIAGGI. I know Ms. Mikulski, who will be arriving shortly, has a statement to make, and when that opportunity presents itself, she will be given the necessary time.

Admiral?

STATEMENT OF ADM. JOHN B. HAYES, COMMANDANT, U.S. COAST GUARD, ACCOMPANIED BY REAR ADM. RAYMOND H. WOOD, CHAIRMAN, MARINE BOARD OF INVESTIGATION, U.S. COAST GUARD, AND REAR ADM. WILLIAM H. STEWART, CHIEF, OFFICE OF PERSONNEL

Admiral HAYES. Thank you very much, Mr. Chairman.

This morning I have with me at the witness table Rear Adm. Ray Wood, who was the Chairman of the Marine Board of Investi-

gation into the collision between the Argentine motor vessel *Santa Cruz* and the U.S. Coast Guard Cutter *Cuyahoga*.

Also with me is Rear Adm. William Stewart, who is my Chief, Office of Personnel.

Since I have submitted the statement for the record, Mr. Chairman, if it suits your purpose, I will abbreviate that statement very quickly, so that perhaps we can go on into the material that you wish to discuss.

Mr. BIAGGI. We will have your statement in its entirety introduced into the record. Without objection, so ordered.

[The following was received for the record:]

STATEMENT OF ADM. JOHN B. HAYES, COMMANDANT, U.S. COAST GUARD

Mr. Chairman and members of the subcommittee, I have with me at the table today Radm. Raymond H. Wood, USCG, who was Chairman of the Marine Board of Investigation into the collision between the Argentine motor vessel *Santa Cruz* and the U.S. Coast Guard Cutter *Cuyahoga*.

We are all deeply moved by the loss of eleven coastguardsmen in the tragic sinking of *Cuyahoga*, and share your concern that such an accident must not happen again.

Consistent with this deep concern, early last November Secretary of Transportation Brock Adams ordered an immediate assessment of U.S. Coast Guard afloat training. The study prospectus which the Secretary approved focused on the assessment of the safety of afloat training given to entry-level Coast Guard personnel, enlisted and officer. Specific facilities and vessels were named in the study directive for examination.

A study team composed of representatives from the Office of the Secretary and Coast Guard Headquarters was formed and worked under the joint direction of the Assistant Secretary for Budget and Programs, Mortimer L. Downey and me. The study was completed in early January of this year. I believe that you and other members of the subcommittee have been provided with copies of the study.

I understand that the National Transportation Safety Board has just completed its findings concerning the *Cuyahoga* accident, and of course our own Marine Board is complete. We have furnished copies of the findings of fact to the committee and all others who have requested them. In accordance with standard practice, the conclusions and recommendations of the board are not yet available for circulation to the public, since I have not yet had an opportunity to review and act upon them. I anticipate release in about two months. We are prepared to discuss the findings of the Marine Board with you if you wish.

Your particular interests, as I understand then, are the training procedures, training controls, and methods of command supervision on Coast Guard training vessels as well as the methods used by the Coast Guard in assigning personnel to vessels such as the *Cuyahoga*. The assessment directed by Secretary Adams addresses these points, and I am ready to explore these issues with you.

We have had an opportunity to review the assessment of afloat training, and we are proceeding to implement both short and long term corrections to the deficiencies which were found. I must say that despite these deficiencies, many strengths were found in the entry-level afloat training system. The process used to provide this training is a structured, orderly process that reflects deliberate, professional thought in its composition. A particular strength is the dedication and serious intent of the enlisted and officer instructors who are in direct contact with the trainee, and who devote long hours to assure the effectiveness of the training that is given.

These instructors have long been recognized as the key to producing entry-level personnel who have a basic exposure to both the skill and the art of being a sailor. But no more than that. Our recruits come from all walks of life with a great variety of backgrounds. The purpose of all entry-level training is to provide a given person the level of information and familiarization and practice necessary for him to be considered ready to begin his period of service in the field. This is recognized as being parallel to what the industrial community would call the apprentice level—still a novice, a beginner—one who is continuing to learn by practical experience under the guidance of skilled workers.

Certainly, during the so-called entry-level training a good deal of knowledge is imparted. But we all have experienced the day of reckoning when all the education and classroom and book learning efforts are expected to be practiced. The skill level

is rudimentary at that point and requires a significant period of time depending on the area of training for one to acquire the equivalent of journeyman or master proficiency. For one to be thoroughly competent—meeting all requirements for the specialty and to be capable and fit to perform in a given skill area.

In moving from the classroom and initial apprentice level exposure to the master of the trade requires practical experience. This cannot be done without some degree of risk. Absolute safety and maximum training are mutually exclusive. The course to be drawn is to achieve maximum practical experience through hands on training added to the preliminary classroom preparation in as safe an environment as it is practicable to achieve.

While knowledge initially expands rapidly in classroom, through familiarization level hands on training and by observation of skilled people performing in the real world, actual personal skill advances very little while one is in fact a trainee. After completion of instruction, while the individual is working on the job as an apprentice, knowledge continues to expand, but quite slowly; however, skill increases relatively by leaps and bounds.

The bottom line is this: We cannot expect an individual graduated from a course of instruction, whether the academy, OCS, an enlisted rating a course, or boot camp to be immediately a producing member of his unit. The first unit is but an extension of the school.

My purpose in discussing this with you is to help put in context the work of the assessment team, whose conclusions I would now like to summarize briefly.

Their findings fall within three general categories of shortage:

Funds—to fix, to buy . . . training aids and equipment, including vessels and boats. We have already done some work aboard Eagle, and will be doing more. She will have a larger permanent crew, how many is not yet firm. We are improving pre-sailing procedures.

People—to do the training, to set the standards. We have some additional billets to training units, and are studying further the priority of needs for even more training personnel. The billets already assigned will have to be replaced, and those and any additional needs which we can verify will be recommended to our department as part of our next budget request. As you know, these are no-growth times for us all.

Time—to add to training curricula, to add emphasis to training for afloat duty and its safety. Time is money as someone observed. If we add to training time, its costs in time that a man is not available at a duty station. We have altered training curricula to add at least some of the time the assessment team recommended. The costs, in people, will appear in our next budget request to our department.

I am prepared to discuss these with you in some more detail, if you wish.

The assessment team made a number of recommendations many of which are to be implemented. We are ready to comment on those as well.

I assure you that I am thoroughly dedicated to maintaining and improving the professional performance of the Coast Guard and the Safety of our personnel afloat. I welcome the opportunity to discuss this with you.

Admiral HAYES. All right, sir.

First of all, I certainly share the chairman's comment concerning the tragic loss of our personnel that took place during the collision of the *Cuyahoga* with the *Santa Cruz*. All of us who go to sea, I suppose, fear that more than anything else.

Subsequent to that casualty, three specific actions basically took place. One, the Coast Guard convened its own Board of Investigation. The National Transportation Safety Board shared with us, during the course of that investigation, the taking of testimony, and participated in the hearing, and subsequently have issued an independent report, as you indicated in your statement, and finally, at the direction of the Secretary of Transportation, the Assistant Secretary for Budget and Programs and myself directed an assessment of the Coast Guard entry level training.

At the present time we are reviewing the Coast Guard and the National Transportation Safety Board reports. I am prepared to comment on the facts contained in those reports.

I have not yet fully evaluated the conclusions and recommendations. We are taking a number of specific actions on the assessment

that was made at the direction of the Secretary, and I am prepared to go into that in whatever detail the committee wishes.

I think it is appropriate perhaps to set the stage for the questioning to comment a little bit on at least what is our philosophy of entry level training, and I think it is fair to say this is fair of most entry level training.

First, with respect to the way in which we train our entering personnel, both officer candidates at our Academy, and at Yorktown, and our recruits, we consider that they are in the first stage of what I would call a trio of levels of expertise. The first is that of apprentice, the second is that of journeyman, and the third might be likened to master. Our training philosophy is that the person who goes aboard ship for the first time must be considered to be an apprentice in the seagoing profession.

The second principle to comment on is that of the relativity between knowledge and skill. At our training command we impart as much knowledge as we can for the most part. With respect to skill, by law we feel what we can legitimately do is expose those who are in the training programs to the skills that will be required, and perhaps begin to give them the tools that will make them more skillful.

The third principle that I think is worth considering with respect to the philosophy of such training is, that the objectives of absolute safety and maximum training tend to be mutually exclusive. An example will perhaps serve to illustrate this point.

One can assure that we will not lose any cadets from the rigging of the *Eagle*, if we do not permit them to go up in that rigging in the first place. I suppose you could say that is maximum safety.

On the other hand, maximum training is assuring that they do go up there, and the only way that they will find out how to do it, and experience that, is to do it. I think the bottom line there is that for this entry level we consider that whether it be an Academy graduate, an OCS graduate, a recruit command graduate, the first unit is really a training assignment, and is for several months after that person reports on board.

The actions which are now specifically underway are these. I am analyzing the future need of the Coast Guard with respect to training in a much broader fashion than was triggered by the *Cuyahoga* incident itself.

We have had these studies underway since last summer. Second, we are evaluating the funding, the people, and the time requirement in order to implement the recommendations that came out of the assessment study, and we will be prepared likewise to do the same thing with the National Transportation Safety Board report and our Marine Board report as soon as we have completed our staff work in analyzing those reports.

Now, Mr. Chairman, I am prepared to discuss these specific actions in more detail, either right now, or in response to a later question, whichever you desire.

Mr. BIAGGI. I think we will interrupt your testimony at this point and recognize the gentlelady from Maryland, Ms. Mikulski, for an opening statement.

Ms. MIKULSKI. Thank you, Mr. Chairman and members of the committee. I am here today in memory of the 11 dead Coast Guard

trainees, whose names the chairman so graciously read into the record, and would state that it is our responsibility to take a clear, hard look at Coast Guard training practices and equipment to determine what can be done, and what must be done, to avoid such tragedy in the future.

On October 20, 1978, the Coast Guard cutter *Cuyahoga* collided with an Argentine freighter. The *Cuyahoga* was 50 years old—the last of its kind still in use. Its lifesaving equipment was all stored in less than convenient locations, the emergency lighting system was faulty, and the radar screen could not be seen by the officer of the deck unless he left the wheelhouse.

The commanding officer of the *Cuyahoga* had received no specific training either before or after he assumed command of the vessel. Although he customarily wore glasses to aid his vision and took medication for chronic bronchitis, he never used glasses while in command of the vessel, and there was no objective procedure for determining the effect of the medication upon his command.

The lookout at the time of the collision was an inexperienced Reserve officer standing his first watch after being on board less than 2 days. He had received only brief verbal instructions on his duties as a lookout. The officer candidates aboard the ship had had only a few hours of orientation the night before. They could not reach the lifejackets which were stored in a metal locker, nor could they operate the manual battle lanterns, because of their poor condition.

Mr. Chairman, the more I studied this situation, the worse I felt. Because I am now convinced that the circumstances leading up to the tragic sinking of the *Cuyahoga* was not an exception to the Coast Guard policy—they were the result of Coast Guard policy. That vessel was an accident waiting to happen.

The purpose of this hearing is not to determine what happened at the sinking of the *Cuyahoga*—that has already been studied by the competent agencies, and we are not here to determine guilt, innocence or the performance of the captain himself. We are here to learn why it happened.

Mr. Chairman, I am a weekend sailor. I have a little Sunfish and I like to go sailing on the Chesapeake. I knew the Coast Guard was responsible for maritime safety and I was pleased to cooperate with them. Before I took my own boat out, I enrolled in the course on maritime procedures given by the Sailing School in Annapolis. My earliest lessons were on survival techniques and the Rules of the Road. Last summer when I was out with a friend we were stopped by a patrol boat. We had to show our life preservers and where they were stored and guarantee that we had proper access to them.

Now, the Coast Guard did not practice what they preached with their own *Cuyahoga*.

Now, I have learned that the Coast Guard does not live up to the regulations it imposes on other people. After studying these reports, I am convinced that the Coast Guard gives to the training of young Coast Guardsmen its lowest priority. The U.S. Coast Guard is responsible for many important functions. The responsibility for training young men and women is no less important than any of these. If training is taken seriously then the condition of training vessels will be taken seriously, lifesaving equipment and skills will

be taken seriously, and uniform standards for competency and evaluation will be developed.

I cannot believe that the lives of our young people are any less valuable than the lives of Sunday sailors. We have a responsibility to see that the tragedy of the *Cuyahoga* does not happen again.

That really concludes my remarks, but during the course of questioning I am going to be referring to the National Transportation Safety Board study, and also the Coast Guard's own—excuse me, the study done by Secretary Brock Adams, and I would like that to be entered into the record.

Mr. Chairman, I hope we can really pursue what are the training programs, what are the vessels that we use, and what can be done in the future to avoid those accidents.

[The following was received for the record:]

DEPARTMENT OF TRANSPORTATION



COAST GUARD

**CUYAHOGA
REPLACEMENT
STUDY**

FEBRUARY 1979

CUYAHOGA REPLACEMENT STUDY

FEBRUARY

1979

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PREFACE

The board acknowledges the valuable assistance provided by the following individuals:

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EXECUTIVE SUMMARY

This study was undertaken at the direction of the Chief of Staff, to determine a replacement for CGC CUYAHOGA. CUYAHOGA was used primarily for short OCS cruises of two to three and a half days duration. Since the loss of CUYAHOGA this training has been conducted by scheduling a variety of ships of convenience. In the course of examining alternatives for replacement consideration was given to many factors affecting a decision, such as training objectives, habitability, safety, availability, cost and so forth. Various alternatives for replacement were considered, some of which would involve a vessel dedicated solely to the OCS cruises, and others which would require a specific vessel to be scheduled for short cruises at appropriate times of the year. In addition, use of simulation was considered. Two alternatives were determined to be the most feasible: use of CGC RELIANCE and use of Fifth District 110 WYTM's. With the projected schedule of five to six OCS classes of approximately 25 students annually, RELIANCE would be needed for about 18-21 days per year, since she could accommodate an entire class on one cruise. The 110' WYTM's would be required for a total of 45-55 days, performing a series of day trips instead of overnight cruises for approximately half the OCS class at a time. After a comparison of the two alternatives it appears that RELIANCE would make a better replacement than the 110' WYTM's with the only drawback being the impact to the Atlantic Area of losing RELIANCE for the required 18-21 days of dedicated training time. Use of RELIANCE would also require restoration of the normal complement and scheduling of an availability period beyond the current yard period to improve her appearance.

The conclusion of the study is that RELIANCE would be the most suitable replacement for CUYAHOGA once the normal complement is restored and her appearance is improved; the 110' WYTM's would make a suitable back-up platform, in the event that RELIANCE should upon occasion not be available.

In addition, the board looked somewhat beyond the chartered scope of the study and concluded that RELIANCE could be made available for the longer OCS one-week cruise in addition to shorter cruises formerly performed by CUYAHOGA.

I. PURPOSE: The sinking of CGC CUYAHOGA on 20 October 1978 has resulted in the loss of a major underway training platform used in the shipboard training of Officer Candidates. A board consisting of six officers was subsequently established by the Chief, Office of Personnel by direction of the Chief of Staff to determine a replacement for the CUYAHOGA. Appendix A is a copy of the charter which established the board and provided initial guidance. The purpose of this report is to outline the requirement for and recommend a replacement for CGC CUYAHOGA.

II. BACKGROUND: CUYAHOGA was used primarily for short OCS cruises of two to three and a half days duration. The sequence of afloat training for Officer Candidates typically consisted of a few hours experience on small boats during the fifth week of training, a weekend cruise aboard CUYAHOGA after the fifth or sixth week of training, and a week long cruise aboard a larger cutter of convenience during the fourteenth week of school. With an average of roughly five-six OCS convenings per year the short cruise underway requirement represented approximately 35 underway days for CUYAHOGA (each class being broken into two sections). In addition to the short cruise requirement CUYAHOGA was utilized for the BM/PS, MST, MLE Schools at Yorktown, but she was used due to her availability rather than as a result of any specific requirements of the courses. OCS was the only course actually generating a need for a vessel such as CUYAHOGA. Total operating cost for CUYAHOGA in FY78 was about \$244K; she had a crew of 11.

Since the loss of CUYAHOGA, operational ships of opportunity have been utilized to fill the gap in the OCS training cycle. The CGC CHEROKEE trained half of Class 1-79 and a combination resource package of an 82' WPB and a 110' WYTM (CGC MOHICAN) trained the other half. Objective accomplishment varied from a low on the WPB (space, hardware and trainer expertise being major restrictions) to a high on the CHEROKEE. There are problems common to all such ships of opportunity. These include:

- a. The simple fact that training rides the coattails of actual operations on such vessels relegates training to a secondary concern, to be "put up with," often despite the concerted efforts of the CO or others to the contrary.
- b. Although desirable, it is not always possible with ships of convenience to train people on ships and equipment they will use and serve on in the post-training world.
- c. The training establishment attempts to guarantee both the subject matter expertise and the training credentials of any instructor employed. No such guarantees, especially the latter, can be made on ships of opportunity.

In summary, despite the best efforts of schedules, COs and others, ships of opportunity do not possess some of the most necessary and desirable attributes for training. Indeed, some may be inherently unsatisfactory. The advantage of a platform which has training as one of its primary missions is that expertise, facilities and methods can be developed to assure safe and effective training.

III. METHODOLOGY: There is a substantial difference between the methodology which the board wished to use and that which it was forced to use due to the absence of measurable performance standards such as Terminal Performance Skill and Knowledge Objectives (TPSKO) to be achieved by OCS graduates. Although training objectives for OCS exist, they are not currently in the behavioral TPSKO format now required for all Coast Guard curricula. This problem is far from being a mere "technicality". The TPSKO format is essential, since it describes (in the case of skill) in exact terms what the graduate must be able to do, with reference to the equipment and standards against which the performance is to be evaluated and measured. Thus, the TPSKOs are the foundation upon which the curriculum outline, method of instruction, time and resource requirements are built. Lacking a valid set of TPSKOs it was necessary to determine our requirements for a replacement by basing them on a general set of OCS training objectives which require hands-on training in the afloat environment, together with the assumption that hands-on training time (whether on a vessel or simulator) is limited to approximately the amount of time formerly spent on CUYAHOGA (OCS short cruise). After arriving at a set of broad training objectives for the short cruise, information was gathered on as many alternatives for replacement as possible; the plans were reviewed and visual inspections of any likely candidates were made to supplement our information. The various alternatives were then compared on the basis of the degree to which they can satisfy not only the training objectives but other constraints and considerations as well.

IV. ASSUMPTIONS:

a. That the current OCS "short cruise" requirement of approximately 3½ days is valid. This provides the starting point in determining the underway time requirements of any potential replacements. Given the current OCS curriculum, the present policy of having one short cruise and one long cruise is preferred by the training command since it allows early reinforcement of some of the knowledge/skills acquired during the first weeks of training, as well as allowing students to correlate subsequent classroom instruction with experience gained during the short cruise. The short cruise does not necessarily have to be an overnight cruise. In fact CUYAHOGA was not normally underway at night and the majority of the training was accomplished during daylight hours. Several day trips could accomplish the same training.

b. That the present OCS curriculum and Professional Competency Objectives are valid instruments for determining the course objectives used to evaluate resource requirements. This is explained in subsequent paragraphs.

c. That the recent "Assessment of Safety of Coast Guard Afloat Training" represents valid guidance in evaluating alternative replacements. For example, this implies that such statements as "safety of afloat training of entry-level personnel could be enhanced by utilizing, insofar as practicable, the same equipment and vehicles in training as are used in operations" are sound criteria for evaluating replacements.

d. OCS short cruises should be dedicated to training and should not be involved in an operational mission, unless a mission of opportunity interrupts the cruise. In a letter to Commander, Atlantic Area dated 26 September 1977 (Appendix B), the Commandant himself supported the concept of providing cutter time to dedicated OCS training cruises, because of the relatively short training time available to OCS. Moreover, the "Assessment of Afloat Training" under assumption c. recommended that CGC RELIANCE emphasize more training and less operations in her employment.

e. Women will be trained on OCS cruises.

f. A cutter dedicated solely to OCS training cruises is not necessarily required, due to the relatively small number of days associated with the short cruise requirements.

g. Due to the current lack of a training platform for the short cruise, availability of a replacement vessel is a critical element in considering alternative replacements.

V. COURSE OBJECTIVES: A set of Professional Competency Objectives (PCOs) was recently compiled with Academy cadets in mind by the Professional Military Training Advisory Committee (PMTAC). PMTAC consists of five officers with extensive seagoing experience who are presently involved in the supervision of

newly commissioned officers; the committee was formed to assist the Academy by making recommendations on academic matters. A formal decision has been made that the PCOs are to be incorporated in the OCS curriculum as well. However, the job remains of putting the PCOs into TPSKO format in accordance with COMDTINST 1550.8A CH1 and having them formally approved. Based on the PCOs and on the present OCS curriculum, the board compiled a list of "training areas" which require some level (what level cannot be determined) of hands-on training in addition to classroom instruction. Appendix C contains the list of "Classroom and Hands-On Training Areas" under the short cruise and long cruise categories. The determination of which training areas fall into the short cruise or long cruise categories is based on the present structure of the OCS curriculum, and thus cannot be considered as a hard and fast requirement. Some flexibility certainly would exist in accomplishing some of the objectives associated with the short cruise on the long cruise instead. The board also made a judgment as to which training areas require hands-on training in the shipboard environment (whether vessel or simulator) and assigned a code letter "D" for "driver"; and which training areas do not require, but lend themselves to the shipboard environment (code letter "R" for "rider"). It can be seen from the list of training areas that the short cruise actually imposes only broad requirements in terms of equipment required and vessel specifications. Some identifiable requirements are for a bridge area capable of handling a piloting/navigation team, gyro repeaters, chart table and so forth; a vessel sturdily constructed to allow mooring exercises; and preferably a vessel with enough meaningful watch stations to expose students to watchstanding and rotation practices found on units to which they are likely to be assigned.

VI. CONSIDERATIONS: In addition to the considerations imposed by the nature of the training objectives there are various other considerations and constraints against which any potential replacement has to be evaluated:

a. Habitability. Habitability for our purposes refers to the space available and physical conditions not only for the living environment, but also the working/training environment; it refers to the conditions expected to be found on the vessel when she commences training, assuming she is to operate with close to a full permanent crew in addition to the trainees. Naturally if the vessel is currently in a poor state of habitability, there would be higher initial costs associated with placing her in the condition we would expect her to be in when she commences training. Habitability has to be viewed both from the standpoint of the permanent crew and the students. Different considerations for habitability are introduced depending on whether the alternative replacement is to operate on overnight cruises, or whether it will operate on day cruises only. In the former case berthing has to be available for the students, including women, as well as the permanent crew.

b. Assessment of Safety of Afloat Training. The board was instructed in the initial charter to consider the input of the recent assessment in evaluating a replacement. Considerations here are primarily in the category of safety, with the assumption that the assessment represents formal guidance. Many of the recommendations concern procedures which can be implemented or changed regardless of the replacement chosen, but others have a direct bearing on any

decision for a replacement. These will be developed more fully in the discussion of the principal alternatives.

c. Availability. This is a prime consideration due to the immediate need for a replacement resource with the sudden loss of CUYAHOGA. Availability is viewed in terms of lead time required due to construction, existing commitments, or time required for any rehabilitation or conversion if needed. Lead time of over one year is considered excessive.

d. Initial costs. These include any acquisition cost or initial rehabilitation or conversion costs.

e. Iterations required to accomplish training. This refers to the number of trips required to provide equivalent short cruise training to each class of Officer Candidates; obviously a smaller vessel will have to make more trips. This is reflected not only in the additional operating cost but in some disadvantages in scheduling. The projected loadings for OCS are as follows:

<u>FY</u>		<u>INPUT</u>	<u>OUTPUT</u>	<u>AVG. NO. CONVENINGS</u>	<u>AVG. CLASS SIZE</u>
79	CG	172	150	6	30
	Foreign	23	20		
	TOTAL	195	170		
80	CG	115	100	5	24
	Foreign	14	12		
	TOTAL	129	112		
81	CG	115	100	6	21
	Foreign	21	18		
	TOTAL	136	118		

<u>FY</u>		<u>INPUT</u>	<u>OUTPUT</u>	<u>AVG. NO. CONVENINGS</u>	<u>AVG. CLASS SIZE</u>
82	CG	115	100	5	25
	Foreign	21	18		
	TOTAL	136	118		
83	CG	115	100	6	21
	Foreign	21	18		
	TOTAL	136	118		

With five - six convenings per year, class sizes for the short cruise will be about 25 students from FY80 on.

f. Annual operating cost. The method of determining annual operating cost for means of comparison differs somewhat depending on the proposed scenario for replacement, and is explained more fully in the discussion of each primary alternative. It was deemed neither appropriate nor necessary to conduct an economic analysis based on full economic lives and time value of money for the various alternatives due to the inability to forecast that far in advance with any accuracy.

VII. ALTERNATIVES: Ten alternatives for replacement were formulated and then compared on their ability to satisfy the above requirements and considerations. In addition, use of simulation was considered as directed in the initial charter. Appendix F is a discussion of the board's findings with regard to available sources of simulation. Although simulation does appear to have a place in entry level shipboard training, simulation alone could not be a complete

replacement for the training provided by CUYAHOGA. However, the potential does exist to consider simulation in terms of the overall OCS curriculum. Moreover, it is apparent from the level of activity and interest currently being devoted to the vessel simulation question by various Headquarters elements that simulation should also be considered in terms of the much broader servicewide applications for OCS, the Academy and operational training, in order to ensure the most cost-effective solution. For these reasons, as well as considerations of development time, simulation was not included in our comparison of the ten alternatives for a CUYAHOGA replacement.

A synthesis of the results of our comparison in tabular form is included as Appendix D. The majority of the alternatives were eliminated after evaluating the results of visual inspections, engineering reports and cost estimates based on high cost, long lead time, poor correlation with training objectives, lack of an equivalent vehicle in the operational fleet, or in most cases a combination of the above factors. Serious consideration centered around RELIANCE and 110' WYTM as feasible alternatives. Since much of the information concerning the alternatives does not lend itself to a tabular format, a discussion of the two primary alternatives follows:

a. CGC RELIANCE (WTR 615) 5TH DISTRICT WMEC

Commissioned	1964
Displacement	970 tons
Length	211'
Beam	34'
Draft	10'
Engines	2 diesel, 2 shafts, 3000 SHP

Speed 16 kts
 Complement 7 officers, 45 enlisted (modified WMEC allowance)
 Present Status Operational
 Compartments three

Other facts:

Steel hull, twin controllable pitch screws, large bridge, separate CIC, Gyro equipped, EEE package on board consistent with current fleet. Homeport is Yorktown, VA.

There is no question that RELIANCE would be a more than adequate resource in terms of training objective accomplishment. This alternative would schedule RELIANCE to conduct a 3½ day short cruise dedicated to training for each OCS class. The Assessment of Safety of Afloat Training contains some specific guidance concerning use of RELIANCE which can be summarized as follows:

"The material condition, manning and method of operation of RELIANCE should be promptly reviewed in detail to ensure maximum safety of embarked trainees. The study team recommends as a minimum:

- restoring a full 210' MEC crew to RELIANCE, to permit better operation, maintenance and training.
- scheduling and implementing an early and suitably long shipyard availability to allow the vessel to regain a suitable condition and catch up on maintenance.
- emphasizing more training and less operations in her employment."

and further.....

"to enhance the safety of afloat training and (to increase) ship time available for.....

- enriching officer candidates' junior officer instruction."

RELIANCE is presently undergoing a three month yard period. Upon completion most of the problems previously noted in her material condition are expected to be corrected (Appendix E). Although her machinery condition after the availability will be average for the 210 fleet, the board did find that RELIANCE does not provide a suitable appearance which could serve as a model in the training of entry-level personnel. The means by which to correct the appearance problems is available in the Office of Reserve, but these items cannot be accomplished during the present availability due to prior commitments and workload at the Yard. The solution seems to be to schedule an additional availability that would allow completion of these much needed appearance items. In this vein, the board also supports the idea of restoring the full 210 complement to RELIANCE. One method of restoring most of the permanent crew would be to reprogram the 11 CUYAHOGA billets to RELIANCE. With the complement restored to the normal level (12 - 13 additional billets) there would still be berthing space available for at least 17 personnel, because of the recent addition of "Northhampton" style bunks aboard the vessel. Some of the additional complement could be kept aboard during cruises, while the majority could be left behind, since their primary function would be routine inport maintenance. This would allow the full OCS class to be accommodated on the short cruise; separate accommodations are also available for OCS instructors who would assist in training. The actual split of those to be left behind could be left to the discretion of the Commanding Officer on a rotating basis taking into consideration the number of trainees per cruise. This system would continually allow fresh people on the dock ready to begin routine maintenance while still providing the required training facilities. That portion of the additional crew left behind could be rotated to allow for leave, training or

temporary additional duty at Support Center Portsmouth. Such practices are now used by ships in the fleet, except that in RELIANCE's present situation it is more difficult with a reduced crew. It is felt that RELIANCE can train effectively and safely with a slightly reduced crew such as she does now. This method, however, would permit her to maintain a proper appearance as well. The other alternative would be to always keep a full crew aboard, thus sacrificing training capacity. Both the Commanding Officer of RELIANCE and the Chief, Office of Reserve have expressed their belief that RELIANCE could be made available for the 3½ day OCS cruise dedicated to training, although some scheduling problems would have to be overcome. A concern of the Afloat Training Assessment Team appears to have been that with the existing crew RELIANCE was hard pressed to accomplish both training and the operational mission. Much of this burden would already be lifted by dedicating the short cruises to training only.

COST: Since RELIANCE could accommodate the entire OCS class in one cruise the annual requirement for underway days would be approximately 18-21 days (5-6 OCS classes per year). The costs to the Coast Guard must be viewed in terms of the impact on both the Reserve Program and other operating programs (ELT, SAR, MEP, MP). RELIANCE is officially designated as and funded principally as a training cutter under the management of the Office of Reserve, but in her capacity as a training platform for reservists she operates as any other MEC resource in the Atlantic Area. Thus the costs associated with this alternative are the sum of two categories:

1. Loss to Reserve Program - The Office of Reserve is currently allotting 30 ADT quotas for RELIANCE patrols. The ship rarely, if ever, sails with all quotas filled however. Given the limited number of training days (nominally 180 annually), allocating RELIANCE to OCS training for 18-21 days represents a loss in Reserve Training. However, it appears that this shortfall can be made up by re-scheduling reservists to other RELIANCE cruises with a greater utilization of quotas or by assignment to within district cutters which is also done. Thus in this category there is no additional cost to the Coast Guard associated with this alternative.

2. Loss to other operating programs - If the loss of the 18-21 cutter days to LANTAREA represented merely an absorption of time and a rescheduling of already available LANTAREA cutters, the cost to the Coast Guard in this category would be only the marginal cost of operating the vessel for that number of days, such as additional fuel. However, this does not appear to be the case. G-OP has been documenting an already existing shortage of cutter days, and indications are that loss of RELIANCE for the 18-21 days would add to the shortage. The problem is then to quantify this cost to the Coast Guard in terms of lost benefits. A G-CPE sponsored study group is attempting to quantify the benefits (quantity of seized narcotics, fines, lives saved, etc) associated with an MEC, but at present there is no composite information readily available to us. The best we can do is recognize the potential loss.

One way of looking at this would be to postulate that annual benefits should at least be greater than the annual cost of operating an MEC; the FY78 cost (lost benefits) in our case would be at least 18/180 (OCS training days over nominal

cutter days annually) x 1187K (annual WMEC 210 operating cost from FY78 Cutter Report) = \$118.7K. Although this may understate the cost of using RELIANCE, it compares favorably with the \$244K FY78 cost of operating CUYAHOGA. Moreover, use of RELIANCE would not necessarily represent a total loss of benefits to all programs, since even while on a training cruise RELIANCE would be available for a mission of opportunity, such as SAR or emergent ELT. In terms of internal cash flow, Reserve Program currently funds all of the permanent billets aboard RELIANCE, with all other operating expenses funded by the operating programs. There are currently no established criteria for pro-rating the funding between appropriations based on the number of operating days, and the question of what, if any changes, would need to be made in the internal funding arrangement between programs needs to be resolved; however, there would be no changes in the total funding required by the Coast Guard, and the opportunity exists for reprogramming the billets and funding previously associated with CUYAHOGA, should some reimbursement between programs be necessary.

b. 110' WYTM:

Launched	1943
Displacement	370 tons
Length	110'
Beam	27'
Draft	11'
Engines	diesel electric; 1 shaft, 1000 bhp
Speed	11.2 kts
Complement	1 officer, 19 enlisted
Present status	operational
Compartments	three
Steel hull with ice-breaking capability	

This alternative considers scheduling of one or two at a time of the three 110' WYTM's located in Fifth District (2 - Baltimore, 1 - Portsmouth) to OCS short

cruise training. In the course of the board's inspection of the Chinook both the vessel's Commanding Officer and the Group Commander indicated that the WYTM's are available a good part of the year. Communication with the Program Manager, CCGD5, and a review of the Abstract of Operations confirmed that the vessels could be made available for the required number of days. From FY72-77 the vessels were in use an average of 107 days per year. Due to the vessel's icebreaking mission, some disruptions to OCS scheduling could occur in the event of an extremely cold winter such as that encountered in 1977-1978, but this would probably be an exceptional case. In our visit to Chinook we noted that material condition was outstanding; from an engineering standpoint the only problems appear to be in finding replacement parts for the vessel's Ingersol engine. In terms of her suitability for a training platform, she appears to be quite adequate although the cramped space in the pilothouse would make piloting and navigation training more difficult than on RELIANCE. The 110s, however, have been used by OCS in the past, during which short cruise training objectives were accomplished successfully. Overnight cruises would be out of the question due to the limited berthing and other accommodations. Half the OCS class (12-13 students plus instructors) could be trained on one WYTM during a series of day cruises. The potential also exists to train the entire class at once by scheduling two vessels, thereby taking advantage of the opportunity for multi-ship exercises. In either case the total number of underway days required is approximately 45-55 cutter days (including transit time) plus about 10-12 cutter days (5-6 classes x 2 iterations) dockside for pre-cruise indoctrination.

COST: Based on the fact that the vessels are available and will not be diverted from operational missions, the only additional cost to the Coast Guard would be the incremental cost associated with operating the vessel for the additional 45-55 days. Any other costs would be annual fixed operating costs which would accrue whether the vessel performed the training or not. The FY78 incremental cost for the 45-55 days of training is estimated to be the fuel cost plus between 5% (least case) and 20% (worst case) of the average annual OG30 (other than fuel), OG45 and OG42 costs. This is estimated to be between \$5500 (fuel) plus .05 (28,433 + 57,083 + 996) = \$9825 (least case) and $\$5500 + 20(28,433 + 57,083 + 996) = \$22,802$ (worst case). These funds could be made available to CCGD5 from those allocated to CUYAHOGA.

c. Comparison of feasible alternatives:

The use of either vessel for the OCS short cruise has both advantages and disadvantages. A review of these factors which bear on the decision must be made. A simple Pro/Con listing of each alternative was selected as an appropriate method to display these factors.

Alternative a: Utilize CGC RELIANCE for OCS short cruise.

PRO'S

1. Accomplishment of training objectives can be met.

CON'S

1. Some ADT training would be curtailed but this could be overcome by re-scheduling.

PROS

2. Vessel has been used in training; expertise in instructing from the crew exists.
3. Use of vessel day and night either increases shipboard familiarization and exposure or reduces time necessary to accomplish objectives.
4. Vessel is in an operational class that OCs could be assigned to.
5. Vessel has more than adequate navigational space.
6. Relatively new vessel; will be around for at least 10 plus years.
7. Can accommodate entire projected OCS class at one time.

CONS

2. Cost of operation is higher.
A minor loss to ELT would result.
3. Appearance needs to be improved for training environment.

Alternative b: Utilize 110' WYTM for OCS short cruise.

PRO'S

CON'S

- | | |
|---|---|
| 1. Vessel boarded in Yard was in outstanding material condition. | 1. Proposed use of CCGD5 vessels would not allow for significant development of training expertise. |
| 2. Operational time is available. | 2. Vessels are 35 years old; could lead to unfavorable comparison with "old" CUYAHOGA. |
| 3. Accomplishment of training objectives can be met. Vessel has been used previously for OC training. | 3. Navigational area is cramped. |
| 4. Less costly to operate than RELIANCE. | 4. Vessel might not be available during ice operations. |
| 5. Multi-ship operation would increase seamanship training exposure. | 5. OCs will not serve on WYTM as an officer. |
| | 6. Lack of berthing capacity precludes night time operations. |

VIII. Use of RELIANCE as a long cruise vessel

In our discussions on the RELIANCE alternative it became apparent that use of RELIANCE had to be considered from the standpoint of the OCS long (one week) cruise as well. The information provided on RELIANCE with regard to the short cruise applies equally well to her utilization for the long cruise also. With the improvements noted in our discussion she would be an adequate training platform with respect to training objective accomplishment for the long cruise as well as meeting the other considerations. Prior to 1978, RELIANCE was used as the OCS long cruise vessel. Since early 1978, she has been used on operational missions but carrying ADT Reserves for afloat training. Throughout this report we have referred to the OCS "short cruise" as a 3½ day cruise and the "long cruise" as a week long cruise. However, due to the fact that RELIANCE, unlike CUYAHOGA, can operate and thus train on a 24 hour basis, the training formerly conducted on CUYAHOGA could be compressed into a 2-2½ day period. In addition, half a day of the long cruise is currently devoted to ship familiarization and this would not be required, if trainees had already sailed on the short cruise. Thus, the total underway requirement, if RELIANCE were used for both short and long cruises would be about nine days. Furthermore, the OCS schedule is such that a long and short cruise combination falls, on the calendar within the same two-week period. In other words, with two hypothetical OCS classes (A and B) the short cruise for class B falls within the same two-week period as the long cruise for class A. This occurs five or six times a year at roughly two-month intervals. Thus the total OCS requirement for short and long cruise aboard RELIANCE would amount to five or six nine-day blocks of time annually, occurring at two-month intervals. A typical

nine-day segment would consist of a schedule such as the following:

0800 Friday - depart on short cruise

1200 Sunday - arrive Yorktown

1800 Sunday - depart on long cruise

1200 Sunday - arrive Yorktown

By arriving on Sunday, RELIANCE would then be available either for an import period, or for embarkation of Reservists for another patrol. G-R has evaluated reserve training afloat requirements and projects a need to train 300 ADT LANTAREA reservists for two weeks annually on RELIANCE. Appendix G contains the calculations used by the Office of Reserve to arrive at the figure of 300. This figure translates into a requirement for 20 weeks of RELIANCE time for the Reserve Program, whether this be in the form of Refresher Training, OLP, or other underway periods. It also includes any yard periods scheduled for RELIANCE away from homeport. Since current policy calls for a standard of 180 days inport, the Reserve requirements essentially leave 6 weeks of time to be devoted to OCS cruises. Since OCS requirements are for five or six nine-day periods annually (or 45-54 days) this amounts to a 6½-7½ week requirement. Thus, in order to utilize RELIANCE for both long and short cruise and satisfy Reserve requirements RELIANCE would have to be operated away from homeport between 183 and 192 days. This would be slightly above the standard of 180 days in homeport, but would not detract from required maintenance time. Furthermore, crew time inport would be enhanced by the practice of rotating that portion of the permanent crew to be left behind during cruises, as discussed previously, and by the fact that Refresher

Training, every 18 months, is conducted at Little Creek, which is within easy access to the crew's homeport. There would be considerable advantages to using RELIANCE as the sole OCS training platform. Utilizing her for the long cruise would eliminate some of the problems noted earlier with respect to using ships of convenience for training. It is felt, particularly, that safety to entry level trainees would be increased if one vessel, with an expertise in both training and operations, were also available for the long cruise. Moreover, by utilizing RELIANCE for both cruises, there would be greater continuity in the training received, and by reducing some of the time associated with familiarization and orientation, better use can be made of the limited training time available to OCS.

The loss to the operating programs of using RELIANCE for the long cruise would seem to be twice as great as costs calculated earlier, but since ships of opportunity are already being used for this purpose, using RELIANCE should not add significantly to the loss of cutter days already being experienced.

IX. SENSITIVITY ANALYSIS:

a. Both alternatives appear to be very sensitive to any significant change from the assumption that the 3½ day short cruise requirement is valid. If significantly more underway time becomes required in this mode, G-R may be unwilling to part with any additional RELIANCE time, and the 110s may not be available either. However, if one of the alternatives is selected, the other will still be available should any increased requirement develop. In the same way, the alternatives are sensitive to the accuracy of the forecasted student loading.

b. The board has had to operate on the assumption that the present OCS curriculum and Professional Competency Objectives are valid and will remain so in the foreseeable future. The potential exists for considerable changes in the conduct of OCS training once the PCOs are put into TPSKO format and formally approved. If underway training requirements should change considerably it may become necessary in the future to reassess our afloat resource requirements. It may be that simulation and/or a vessel dedicated solely to OCS cruises could become more desirable. In any event neither the RELIANCE nor the 110' WYTM commits us to a course of action which would be difficult to deviate from if substantial differences in OCS afloat training requirements materialize.

c. If the statement that safety can be enhanced by using the same vehicles in training as in operations is invalid, some alternatives (such as T-boats) gain a little more potential for consideration, but in any event the primary alternatives do not lose their validity.

d. If the assumption that OCS cruises will be dedicated to training, not operations, is incorrect, the RELIANCE alternative would be considerably more attractive, since we would not detract from operational missions.

e. If the assumption that a cutter dedicated solely to OCS training cruises is not required is invalid, then our primary alternatives become invalid.

X. CONCLUSIONS:

A. That both RELIANCE and the 110' WYTMs would make suitable training platforms for the short cruise requirement, although before using RELIANCE she should be given an additional yard availability to improve her appearance, and her complement should be restored to the normal level. From an engineering standpoint machinery reliability of RELIANCE is considered average for that class vessel, while appearance is slightly below average.

B. That it would be beneficial to use one vessel for dedicated training on both short and long cruises. This would not only eliminate the disadvantages of using the current "ship of opportunity" but also increase training quality. The RELIANCE is more than adequate to achieve course objectives.

C. That use of one vessel would decrease current OCS cruise requirements from 10½ to 9 days because of reducing redundancy and by providing increased capability (day and night cruising) on the short cruise.

D. That RELIANCE has operated safely on dedicated training missions with a reduced permanent complement supplemented by trainees. The restoration of billets, however, would increase the margin of safety as well as improve preventive maintenance and appearance.

E. That although simulation has its place in entry level training, its availability and objective accomplishment shortcomings ruled it out as a total replacement for CUYAHOGA.

XI. RECOMMENDATIONS:

- A. That the personnel allowance of RELIANCE be restored to the normal complement of a 210' cutter using 11 reprogrammed billets from the CUYAHOGA as a partial offset.
- B. That RELIANCE be scheduled for an availability period beyond the current yard period to restore her to a suitable appearance for entry level training utilizing available FY79 funds.
- C. That after completion of recommendations A and B, RELIANCE be scheduled for both OCS short and long cruises of a total duration of 9 days.
- D. That if for any reason RELIANCE cannot be made available for both short and long OCS cruises, that RELIANCE be used for the long cruise and CCGD5 be tasked with providing two 110' WYTM's for the short cruise requirement. In this case, it is further recommended that CCGD5 be reimbursed for additional expenses to be reprogrammed from CUYAHOGA's budgeted funding.
- E. That RELIANCE operate on dedicated training cruises for OCS with slightly reduced complement in a manner described in this report and at the discretion of the Commanding Officer.
- F. That a project staff headed by G-P be established to coordinate ongoing Coast Guard study of the simulation question in order to determine servicewide requirements for simulation in the training of Deck Watch Officers.

UNITED STATES GOVERNMENT

APPENDIX A

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Memorandum

G-P-1

9088

Serial: 7097

DATE: 19 DEC 1978

SUBJECT: CGC CUYAHOGA; replacement for

FROM: Chief, Office of Personnel

TO: CAPT William B. CLARK [REDACTED], USCG

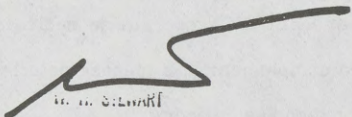
1. A board to determine the requirements for and recommended replacement for the CGC CUYAHOGA is hereby established at U. S. Coast Guard Headquarters, Washington, DC which will convene from time to time as necessary. The board's report and recommendations should be forwarded to the Chief of Staff not later than 28 February 1979.

2. You are hereby designated Chairman of the board. By copy hereof, the Chiefs of the Offices of Engineering, Operations, and Reserve and the Commanding Officer of Reserve Training Center Yorktown are requested to provide a suitable member in the grade of O5/O4 not later than 29 December 1978. Additionally, LTJG Raymond A. PELLETIER, Jr. [REDACTED], USCGR from my staff is assigned as a member.

3. In selecting a replacement, consideration should be given but not limited to surplus Coast Guard and Navy vessels, use of the CGC RELIANCE (WTR-615), use of Academy T-Boat in conjunction with CGC RELIANCE, and shore based simulators supplemented by afloat units. The report of the Departmental review of afloat training, due 15 January 1979, should also be considered as input to the deliberations.

4. If it appears that a promising vessel is available, take steps to place a temporary holding action on that vessel pending final review by the Commandant and advise me.

5. The Office of Personnel will provide necessary clerical assistance. All offices on the distribution list and Commanding Officer, Reserve Training Center Yorktown are requested to provide appropriate records, files and other assistance as necessary.


W. B. Clark

Copy to:

G-E

G-O

G-R

CO, RTC Yorktown

DEPT. OF TRANSP., USCG, CG-4914 (3-73)

APPENDIX B

(G-PTE-1/72)

XXXXXXXXXXXXXX

26 SEP 1977

From: Commandant
 To: Commander, Atlantic Area
 Subj: OCS Training Cruise Support

Ref: (a) Your ltr (Aosr) 1530 dtd 13 JUN 77
 (b) COMLANTAREA Instruction 3120.30

1. In response to reference (a), I offer the following guidance. Because of the relatively short training time for each OCS Section I concur that each cruise should be dedicated to training and not be involved in an operational mission, unless a mission of opportunity interrupts the cruise.

2. Since the OCS cruise needs are now interspersed throughout the year rather than in the two previous winter and summer time frames, I think we should consider additional alternatives for support for FY-78 and beyond, that will still allow us maximum time for operational missions. In this respect I refer to use of MACKINAW during the summer, WORTHWIND during off-season, a WAGO when available, or any other appropriate platform. So that cutter travel time would be minimal, the OC's could be airlifted by HC-130 to or near the training cutter's homeport. The number of trainees per one week cruise would be approximately 30.

3. Although I realize that you have selected vessels for supporting the FY-78 training cruises, I ask that you consider utilizing cutters mentioned in paragraph 2 above and/or other alternatives for as much of the 56 WMEC/WMEC cutter days presently scheduled for FY-78 as practicable. This would permit more time for east coast ELT and other operations that now are underscheduled.

4. I support the concept of continuing to provide cutter training time to our officer candidates, tempering this requirement with our overall mission responsibilities.

O. W. SILER

APPENDIX C

OCS
CLASSROOM + TRAINING AREAS
AFLOAT TRAINING

AREA	* R or D	SHORT CRUISE VESSEL	LONG CRUISE VESSEL
1. At Sea Environment Exposure	D	X	X
2. Marlinspike Seamanship	R	X	X
3. Rules of the Road	D	X	X
4. Deck Watch Officer	D	X	X
5. Watchstanding and Rotation	D	X	X
6. Logkeeping	R	X	X
7. Communications (EEE and Visual)	R	X	X
8. Emergency Drills	D	X	X
9. Piloting and Low Visibility	D	X	X
10. Shiphandling/Mooring	D	X	X
11. Anchoring	D		X
12. Personal Flotation Devices	R	X	X
13. Small Boat Operations	R		X
14. Electronic Navigation	D		X
15. Celestial Navigation	D		X
16. CIC	D		X
17. Bridge Equipment Familiarization	R	X	X
18. DC Training	D		X
19. Engineering (ENE) Familiarization	D		X
20. Ordnance	R		X
21. Multi Ship Exercises	D		X

* D - Driver

R - Rider (can be done on platform other than ship)

APPENDIX D

	Habitability (living & working conditions re training)	Assessment of Afloat Training Safety	Accomplishment of Training Objectives Max (12)	Availability	Iterations required to accomplish training per class	Initial Cost	Additional Annual Cost to CG (FY88\$)	Meets Assumptions
RELIANCE	Good	Yes	12	Now	1	0	119K+*	Yes
CGC Modoc (WMEC 191)	Fair	Yes	12	over 1 yr	1	600K+	817K	No
110 WYTM	Fair	Yes	12	Now	2	0	10-23K**	Yes
95 WPB	Fair	Yes	10	No	4	-	-	No
T Boat	Poor	Yes	8	Unknown	4	0	70K	No
T Boat (Rehab)	Fair	Yes	12	Unknown	4	at least 135K	70K	No
Navy YP	Good	Yes ¹	12	over 1 yr	3	1.6M	90K	No
CGC CITRUS (WLB 300)	Good	Yes	12	over 1 yr	1	640K+	986K	No
USS STALLION (ATA 193)	Fair	Yes	12	over 1 yr	1	3M+	817K	No
82 WPB	Fair	Yes	10	Now	4	0	16K	No

1 - Wooden Hull

* Discussed under RELIANCE Alternative

** Discussed under 110 WYTM Alternative

APPENDIX E

UNITED STATES GOVERNMENT

*Memorandum*DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARDG-ENE-2A/..4
9030

DATE: 1 FEB 1973

SUBJECT: CGC RELIANCE; material condition of

FROM : LCDR M.W. WILMOTH [REDACTED]

TO : Chairman of Board to Determine Requirements for and Recommended Replacement for CGC CUYAHOGA

- Ref : (a) Assessment of Coast Guard Afloat Training dtd 12 Jan 79 (Comandant to DOT Secretary)
- (b) Conversation LCDR WILMOTH/LCDR MCEL RATH (G-ENE-4, 210' WMEC Type Desk) 31 Jan 79
- (c) Telecon LCDR WILMOTH/CDR R.N. ROSS (G-RP-2) 31 Jan 79

1. At your request, I visited CGC RELIANCE to evaluate the vessel's current material condition. Prior to my visit to the vessel, I received a copy of reference (a) and was eager to view the vessel first hand to see if my view of the vessel's material condition corroborated that as stated in reference (a).

2. RELIANCE is presently drydocked at the Coast Guard Yard. Major repair work includes:

- a. overhaul of both CP propellers
- b. installation of MSD (vacuum flush toilet system)
- c. repairs to wet spaces - SHIPALT 210-X-158, includes new decks in scullery and galley. Minor repairs include accomplishment of SHIPALTs:
 - a. 219A-B-126, Cluth Air Alarm
 - b. 210A-B-144, Mini Loop Antenna
 - c. 210A-X-163, Fathometer (SQN-18)
 - d. 210A-B-162, Communications Update
 - e. 210A-X-136, A/C Codinsor Cross Connect
 - f. 210A-X-143, Fresh Water Modifications
 - g. 210A-X-159, JP-5 Nozzle Flushing System
 - h. 210A-X-153, Small Arms Security
 - i. 210A-X-156, Loran "C" Receiver Installation

1 FEB 1975

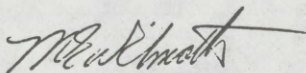
Subj: CGC RELIANCE; material condition of

3. Upon completion of this availability, RELIANCE will have incompleted SHIPALTs:

- a. 210A-A-150, AFFF Installation
- b. 210A-X-155, Ship's Service Generator Upgrading
- c. 210A-B-82, Emergency Breakover Switch-Lube Oil Purifier
- d. 210A-B-88, Boiler Steam Crossover Connection Valve
- e. 210A-B-116, Control Air Compressor Relocation
- f. 210A-B-115, Helo Deck Safety Nets

RELIANCE's main diesel engines will require center section overhauls in FY83, #1 ship's service generator in FY84 and #2 ship's service generator in FY85/86 as per reference (b).

4. My first impression of RELIANCE is to concur with reference (a) in that RELIANCE, in deed, does not "provide a suitable readiness appearance which could serve as a model in the training of entry level personnel." The initial shock of seeing marinite panels painted blue is reinforced with all the rust in evidence in the wet spaces. But, as stated in paragraph 2(c), the wet spaces are now under repair. From what I could see and learn through conversations with pertinent parties, RELIANCE's problems are appearance and not machinery condition. The means by which to correct the appearance problem, i.e. funds to blast and paint RELIANCE's Hull, renew crew's lockers, etc., is available as per reference (c). These items cannot be accomplished during the present availability due to prior commitments and workload at the Yard. The solution, then, seems to be one of coordinating RELIANCE's operational schedule to permit another timely yard period that would allow completion of these much needed appearance items. Following reference (a) recommendations to restore a full 210' WMEC crew to RELIANCE would help ensure that the appearance condition of RELIANCE would be maintained. Regarding maintaining RELIANCE, I would suggest that the vessel be homeported in Portsmouth, Virginia. This would allow RELIANCE to acquire much needed shore support and would not affect the utility of the vessel in its mission with RESTRACEN.



M. E. WILMOTH

Copy to:
G-RP-2
CGC RELIANCE
CDR Loy - RESTRACEN
CCGD5

APPENDIX F

THE USE OF SHIP SIMULATORS TO SUPPLEMENT AFLOAT TRAINING:

1. In order to determine the suitability and availability of ship simulators to supplement OCS afloat training, several members of the Board visited three ship simulators that are currently in operation. The following is a brief report of each simulator.

A. The Maritime Institute of Technology and Graduate Studies (MITAGS) in Linthicum Heights, MD operates a radar simulator whose principal purpose is to teach the skill of collision avoidance. The simulator consists of eight cubicles, each containing two CRT radar displays, a helm and engine order telegraph (EOT), and radiotelephone equipment. The trainees are licensed deck officers and harbor and bar pilots. The course of instruction is four weeks. Each cubicle represents a ship, with two trainees each. A computer generates land masses, and aids to navigation. The trainees generate ship motion using the helm and EOT's. The objective of this training is for each trainee to learn how to correctly interpret the motion of contacts on the radar scope and use this knowledge to 'conn' his own vessel to avoid a collision(s). This method involves no transfer of contact information from radar to plotting sheet. The only true capability of this simulator is to teach the skill of collision avoidance. Ship handling training is possible but only at a rudimentary level. The Coast Guard could obtain a few quotas to the school, but no more.

B. Computer Aided Operations Research Facility (CAORF) is operated by the Maritime Administration at the U.S. Merchant Marine Academy at Kings Point, N.Y. The primary purpose of this simulator is operations research and not training. It consists of a full scale bridge with bridge wings and gyro repeaters, visual simulation using a computer generated image projected onto a 125' cylindrical screen, radar presentation that is coordinated with the visual presentation, communications systems, and a control station. The bridge is a full scale mockup consisting of helm, EOT, repeaters, alarms, communications equipment, etc. The ship dynamics of any ship can be simulated, depending upon the availability of actual ship data. The helm and EOT are programmed for a particular type of ship and the simulator responds accordingly. Feel, pressures, and control forces are fundamentally the same as a real ship. Visual simulation portrays ship, shorelines, bridges, navigational aids, docking areas in full color TV pictures. Six moving ships can be displayed at once, with the scene changing in real time in response to own ship and other ship movements. Day and night illumination is possible. This simulator is capable of providing training in piloting, ship handling, ship control, communications, ship handling general and ship handling specific. i.e. WHC-210,

WHEC-378, radar navigation, visual navigation, collision avoidance, CIC, docking, anchoring and geographic familiarization. Approximately 20 hours per month could possibly be set aside for training. User charges to non-government agencies in the past has been about \$1k per hour. The estimated cost to duplicate this simulator is about 10M. CAORF presently requires 45 maintenance personnel plus programming and operating staff.

C. Marine Safety International at La Guardia Airport, New York, N.Y. operates a model board ship simulator which provides training in ship handling and geographic area familiarization. The simulator consists of a full scale mockup of a merchant ships bridge. It is about 2/5ths the size of the CAORF simulator and does not have bridge wings. Included on the bridge is a helm control and EOT, a radar coupled with the visual presentation, bow and stern thrusters, doppler sonar docking system, depth sounder, wind instruments, and the normal bridge communications. Surrounding the bridge is a 12' x 60' Cinerama-type screen, encompassing 140° in azimuth, upon which is projected the panorama normally seen in the navigation area being simulated. Visual imagery is obtained with a three-camera, wide-angle optical probe which is maneuvered about the 15' x 30' (50 sq miles in scale) model of the geographic 'gaming area' being simulated. All simulation is done in real time with the commands executed on the bridge, handled with the digital computer which provides the proper input to all instruments and equipment. The computer also ensures that the perspective of the panorama is altered to reflect the changes in ship position. Presently, three types of ship dynamics have been programmed, although any type of size could be provided. This simulator can provide essentially the same types of training as CAORF, however, fewer people could be trained at one time. MSI is in the business of selling training, predominately to the shipping industry. No specific training package is offered; they will tailor the training to the performance objectives desired by the customer. MSI's bridge and navigation facilities could handle approximately 5-8 students at one time. Cost of training is about \$17K per week. MSI is also in the business of designing and selling ship simulators. An estimate to duplicate their present facility would be about \$1-2M. The entire facility is operated and maintained by six people.

2. Simulation could be used to supplement but not substitute entirely for OCS afloat training. Eight of the twelve broad training areas established for OCS could be satisfied by the ship simulators at CAORF and MSI. Before a simulator capability requirement could be determined and the acquisition process begun, a valid set of TPSKOs are necessary. As mentioned previously, the TPSKOs for OCS are currently being developed. Thus no recommendation can be made as to what simulation would be needed to supplement OCS afloat training.

3. The principle reason simulation was investigated is that it would appear to be less expensive than operating and maintaining a cutter. What the Board did ascertain is that, at least for the current state of the art, simulation is expensive, both to acquire, and in the case of CAORF, very expensive to maintain and operate. For example, CAORF requires almost as many personnel (45) for maintenance as does a 210'WMEC. Strictly in terms of OCS requirements, purchasing simulator time may be less costly. The figures quoted informally by MSI indicate that one OCS class could be trained for about \$40-50K per week. The length of instruction would be dependent upon the Coast Guard's stated training objectives.

4. Another factor which the Board considered is the relationship of OCS afloat training to the whole Coast Guard's afloat training needs. Several divisions in Headquarters are actively investigating ship simulators for afloat training needs. Relative to the entire Coast Guard, OCS afloat training needs are quite small, however, the type of training needed and duration are still uncertain.

APPENDIX G

AFLOAT TRAINING POLICY

1. Current: All personnel in seagoing rates, or with seagoing mobilization assignments, including officers to be mobilized at RCCs, are required to perform afloat ADT once in every four year period. (CG-392)

2. Proposed: (Note... these numbers reflect LANTAREA districts only)

a. Officers in afloat mobilization billets - 3 of 4 years.

$79 \text{ officers} \times .75 = 59 \text{ trainees per year}$

b. Enlisted in seagoing rates with afloat mobilization assignments - 1 of 2 years.

$356 \text{ reservists} \times .50 = 178 \text{ trainees per year}$

c. Enlisted in "shoreside" rates with afloat mobilization billets - 1 of 5 years.

$89 \text{ reservists} \times .20 = 18 \text{ trainees per year}$

d. Enlisted in seagoing ratings with ashore mobilization who need sea duty for advancement/general familiarization - (and who can't get it on platforms locally, or on the class of their mobilization vessel) - 5 trainees per year (estimated).

3. This proposal provides a trainee load of 300 per year which will just fit the remaining window after OCS cruises, and inport time is removed.

4. These figures make no allowance for IADT reservists in numbers of about 150 per year. Most graduates of BM "A" school should be going to shore billets and not afloat on large cutters. Should they get afloat mobilization orders, they will get significant experience afloat IAW the above guidelines, but we must remember that only 4% of BM's hold afloat mobilization billets.

Mr. BIAGGI. Before we proceed, Admiral, one question.

Do we have any other vessels in similar state as the *Cuyahoga*, in age?

Admiral HAYES. No, sir, she was by far the oldest vessel we had in commission, operating. The next oldest class of vessels are 327-foot cutters, which were built in the late 1930's, and then we have our buoy tender fleet, and the Wind class of icebreakers, that were built during World War II.

Mr. BIAGGI. Do you have any other vessels—well, let me put it this way. Would you have regarded the *Cuyahoga* as a safe vessel?

Admiral HAYES. In the general sense of the word, yes, I would, Mr. Chairman.

Mr. BIAGGI. In the sense that—

Admiral HAYES. I think the safety of a vessel is so dependent upon the way in which it is navigated and operated, that one must be able to put those two parts together. To answer the question adequately, yes, I think as far as its capability with respect to machinery to navigate safely, I think it was a safe vessel. It had shortcomings, and I recognize what those shortcomings were.

Mr. BIAGGI. You would not accept a vessel today designed like the *Cuyahoga*?

Admiral HAYES. No, sir, not at all.

Mr. BIAGGI. Because of its shortcomings?

Admiral HAYES. Because of its shortcomings, it obviously does not have the capability that we expect to build into a Coast Guard vessel today.

Mr. BIAGGI. Admiral, you can proceed.

Ms. MIKULSKI. Excuse me, Mr. Chairman, may I bring to your attention, that when the Admiral cites the adequacy of the *Cuyahoga*, refers again to the report of Secretary Brock Adams, Roman Numeral II, No. 38, Personal Interviews of *Cuyahoga* which stated that generally there is a precruise lookout, but other statements concerning the *Cuyahoga* were these.

Battle lanterns did not work properly, radar was not working properly, it was old and unreliable, lifejackets did not work. Those are some of the conditions of the vessel.

Mr. BIAGGI. Admiral Hayes, before we proceed with you, I wonder if Admiral Wood would respond to some questions.

You were Chairman of the Board of Investigation, and heard all the testimony. Would you tell this committee your opinion of why this accident happened? What was going on in the *Cuyahoga*, and why did they turn left?

Admiral Wood. Yes, Mr. Chairman. First, if I might, when we first started in this hearing, there were a number of comments made, and speculation concerning the effectiveness of having the Joint Board, with the National Transportation Safety Board, and I would like to observe, as chairman from the Coast Guard, that it is my opinion that that Joint Board went very well. We had, I think, extensive cooperation, and full understanding between the members of the staff of the National Transportation Safety Board that joined me in the investigatory part of that proceeding, and I wanted to comment for the record that it was my judgment that it went extremely well.

As far as the accident itself is concerned, I am aware that the findings, as prepared by the Board, will be entered into the record, and that it will therefore be available to go through in extensive detail to reconstruct the sequence of events which ultimately led to the collision.

As far as my personal opinion at this time. Inasmuch as the Board's report has now been submitted to the Commandant, my personal opinion is that the commanding officer at the time was exercising his judgment in the context of a very responsible approach to the training mission of the vessel. He was very carefully overseeing the activities of the officer candidates who were undergoing training.

Early on, when the *Santa Cruz* was initially reported, he apparently—and I say that with emphasis, because we do not have the benefit of his testimony before the Board. We have to rely on a statement that was made to investigators shortly after the collision—and with that caveat, I say that we came to the judgment that he must have developed a mind set with respect to the direction in which that target was going.

The weather—

Mr. MURPHY. Would you tell us what time of day this happened?

Admiral WOOD. This was—the accident occurred at 2107 plus or minus, possibly as much as a minute. We chose 2107 in our report based on the tape that was available from the engine recording equipment on board the *Santa Cruz*.

Mr. MURPHY. What time was sunset?

Admiral WOOD. I am sorry, I do not have that bit of information right at my fingertips. But it was after dark.

Mr. MURPHY. What was the visibility?

Admiral WOOD. Unlimited. It was a very nice night. So I believe that he developed a mind set that the vessel was proceeding in a particular direction, and he was paying particular attention to the training of the officer candidates, which at this stage of the game on Friday night, normally constituted pilot training. They had an extensive team, with sound-powered phones, completely described in our report, and they were taking bearings on shore objects, plotting them, and attempting to give directions to the Officer OD to correct the course of the vessel as necessary, to maintain it on a predetermined track.

Turn bearings were indicated on the chart. The time that they would turn on the various—several navigational objects, as they came up the bay, was important and they were paying particular attention to that. Just before, approximately 1½ minutes, 2 minutes before the collision, they came to the turn bearing that was required for them to come left, and he proceeded to authorize the coming left, which was just 1½ minutes or 2 minutes before the *Santa Cruz* came down upon him.

So, in fact, the vessel came up, made a predetermined course change to the left, which was right into the course of the *Santa Cruz*, and a collision resulted.

As far as the actual situation in his mind? I must emphasize that that is really speculation on my part, and that this is my personal opinion of what happened. He was lulled by the visibility and the

good conditions, and he executed his course change on the basis of the training track, and the tragic accident resulted from that.

Mr. BIAGGI. When you talk about mind set, with relation to training, you imply very forcefully that he was ignoring all other navigational considerations.

Admiral WOOD. That is my judgment. I think that he got information in his mind as to the direction in which this target was traveling. He got it in his mind that it was going into the Potomac with him, and that that is the basis upon which he made the subsequent decisions.

Obviously he was in error, and it was a tragic error.

Ms. MIKULSKI. Mr. Chairman, might I ask the Admiral a few questions?

Mr. BIAGGI. Yes.

Ms. MIKULSKI. Admiral, you state that the commanding officer was preoccupied, and so single minded in his training, that some of these errors occurred. My questions center around this.

No. 1, was the level of personnel in the ship adequate to maintain proper—the proper seagoing nature of the vessel while the Captain was training? In reading some of the reports, it said that you really did not have enough people on the *Cuyahoga*, or No. 1, they could have been watching radar, or appropriate watch, while the other young officer candidates were being trained.

Did you have enough people? Do you have standards along those lines, and were they maintained?

Admiral WOOD. There are no standards that I am aware of. It happens that I made cruises personally on the *Cuyahoga* in the late fifties, and it is my judgment that the personnel on board the *Cuyahoga* were adequate. It is a question also of how you choose to assign people. How you arrange the training versus the safe navigation of the vessel. I am sure that there are others around that would make different judgments at different times. For example, my opinion is that the level of quartermaster on board, Quartermaster Rose, who is a qualified quartermaster, was not a qualified navigational instructor per se. But I can understand how those kinds of assignments occur.

Were there people adequate on board to train? Yes. The program was not complicated. It was intended to have a short period under way, train and then anchor, and then go on to something else.

Ms. MIKULSKI. Who makes that judgment, is it the commanding officer? Who sees that though the decisions are arbitrary, they are not capricious?

Admiral WOOD. Yes, it is the responsibility of the commanding officer.

Ms. MIKULSKI. I will come back to that, Mr. Chairman.

Mr. BIAGGI. Admiral, it seems that you have the same people who are responsible for training, also responsible for navigation.

Do we have the same condition existing on the *Reliance* and the *Eagle*?

Admiral WOOD. I would have to defer that, sir. I am not thoroughly informed on that point.

Admiral HAYES. I think the answer, Mr. Chairman, on those larger vessels, is that it is a combination. We do not have a one-for-one trainer for each individual on board, nor do we have complete

redundancy in equipment, such as some of the navigational instruments. Radar on our larger ships, we have complete redundancy, so that radar can be used for a training device while the other is being used for navigation of the vessel.

On the *Eagle*, on the *Reliance*, basically on any training vessel, we have a combination. Usually there will be one or two, or whatever number of personnel are determined by the training command, who oversees their training program. The ship's officers and ship's personnel contribute to that training. There is usually a training syllabus which sets forth the training objectives.

Mr. BIAGGI. Would you agree that if there was a redundancy on the *Cuyahoga*, there would be less likelihood of this event occurring?

Admiral HAYES. Mr. Chairman, I have reviewed the inspection reports that took place in 1973, 1975, and 1977, and I have reviewed the facts concerning the casualties. It is my judgment that the recommendations that the vessel was overall, undermanned, to keep her adequately maintained, is probably a correct judgment.

Incidentally, I would agree with Admiral Woods' comment with respect to the adequacy of the number of the people. It is the level of training, and the mix, I think, that your question is dealing with, and here I think certainly there is an indication that the vessel was undermanned overall.

Mr. BIAGGI. Admiral, I notice that the inspection reports in 1973, 1975, and 1977 stated that the number of personnel assigned was not sufficient to properly man or maintain the ship.

Can you tell us why additional personnel were not assigned the ship?

Admiral HAYES. Of course, I cannot obviously comment on why that occurred. All I can tell you is what I just said in response to the prior question, and that is that it is my judgment that the recommendations of those reports were fundamentally correct, and that there should have been an improvement in the manning of that vessel.

I would emphasize, sir, that that was dealing principally with the operation and maintenance of the vessel itself, not dealing specifically with the question you had asked before, concerning the training mix.

Mr. BIAGGI. In the light of that, we have conducted authorization hearings now for a number of years, invariably with, I believe, rare exceptions, the Coast Guard testified that things are not all that bad, and your requests are very modest. Last week you testified that the service was as lean as it can be, and it was stretched to the limit. If it is stretched to the limit, and it is as lean as it can be, and if we still have this type of situation, where we are undermanned, and undermaintained, do you not think this committee—well, at least a recommendation from the Coast Guard should have been to increase personnel?

Admiral HAYES. Well, again, Mr. Chairman, I cannot judge too well the preparation of that particular budget, since I had little to do with it. I do know, as you are well aware, that there were serious economic constraints with respect to the preparation of that, and for that matter I believe all the executive branch budgets.

I would certainly think that that is the underlying reason why that budget is as lean as it is, and I supported it at the stages that I entered that budget process, recognizing the concern of both the Congress and the executive branch, in trying to hold the line on budgets.

Now, I look at the question of the maintenance of our vessels, and the adequacy of our numbers of personnel, I think as I indicated to this committee last week, it is my judgment that there are shortfalls, and I would hope that we can remedy that.

We, incidentally, Mr. Chairman, will be developing recommendations as directed by the Secretary of Transportation, with respect to whatever the funding and personnel implications are of the assessment.

Mr. BIAGGI. I hope you develop those recommendations in time so that this committee can incorporate them into our authorization bill.

Admiral HAYES. We would expect to have them available fairly soon, Mr. Chairman.

Mr. BIAGGI. One of the chief purposes of this hearing is to determine whether any legislative action by Congress is indicated. I know you have not completed your review of the investigation, but I wonder if you have arrived at any conclusions regarding the need for legislation?

Admiral HAYES. I have done two things, Mr. Chairman. I have read the conclusions and recommendations of our own Board, and I have done likewise with the National Transportation Safety Board report.

I am not in a position to make that final judgment at this time, but my initial reaction to your question is that at the moment I see no need for additional legislation to effect the carrying out of the recommendations of either of the two reports.

Mr. BIAGGI. Do you agree with the National Transportation Safety Board recommendation that recommends a change in the Inland Rules of the Road?

Admiral HAYES. That is a tough one, Mr. Chairman. Our people have really not fully evaluated that. As I am sure you are aware, one of the most complex problems a mariner has to deal with is the rules of the road, whether it be in inland waters or international waters. I am not sure whether or not the Coast Guard will agree with that recommendation.

It is certainly one that we will look at very carefully, since we obviously identified that there were disagreements, at any rate, with the reading of the Rules of the Road.

Mr. BIAGGI. The Safety Board has determined that the probable cause of this casualty is directly related to a number of failures, or shortcomings on the part of the commanding officer of the *Cuyahoga*. The finding of facts of the Coast Guard Marine Board, which was chaired by Admiral Wood, can lead us to a similar conclusion.

Can you tell this committee what, if any, disciplinary action is being contemplated?

Admiral HAYES. Well, of course, Mr. Chairman, I am not at liberty yet to specifically answer your question. I can tell you this, that within a very short period of time, I will have reviewed the

disciplinary aspects of the report of the Board and make a decision as to what I intend to do.

Mr. BIAGGI. My own personal observation, Admiral, I like to believe that I am a very understanding individual, but in this instance, the errors were of so grievous a nature, and so negligent a performance, that certainly an example should be made, a proper example. It is an example that would have to reflect itself on the entire Coast Guard.

Admiral HAYES. Without again answering your question specifically, Mr. Chairman, let me at least comment.

As far as I am concerned, the most important principal we have in carrying out various tasks, functions, missions of the Coast Guard is the commander, the commanding officer. Upon his shoulders rests all the responsibility of decisionmaking with respect to how he leads and manages his people, how he operates his vessel or aircraft, or shore station effectively, and how he deals with crises. That responsibility cannot be delegated to anyone, nor can failure to carry out those responsibilities be delegated to anyone else.

So I think it is quite clear where the responsibility for this casualty basically rests. I do not intend to react defensively this morning before this committee. I see many errors that certainly were in the background of this casualty, I see things that we can do to improve our training, and the safety of our training, and operations. But I think it is important to emphasize that command is the crucial element in this situation.

Mr. BIAGGI. Could you explain the rationale in assigning a warrant officer as commanding officer of the *Cuyahoga*, instead of a senior lieutenant, or lieutenant commander, who is probably better trained for training and operational duties?

Admiral HAYES. Well, actually, Mr. Chairman, without arguing the point, as to whether or not Mr. Robinson was as qualified as he might be, in answering this question, in the long run, a chief warrant officer, boatswain in the Coast Guard, would have far more experience, and would be, in my judgment, far better prepared to train, and indeed have the maturity to train than a lieutenant today.

Mr. BIAGGI. How about the operational aspect?

Admiral HAYES. Perhaps even more so in that respect, because the average lieutenant today, around the Coast Guard, probably does not have more than about 2 years of sea duty. So I really feel that unless you assign a very high ranking officer to that job, which did not appear to be warranted, that that was the correct rank, and the correct experience to be applied to the job.

Mr. BIAGGI. In light of what you have just stated, would it not seem more appropriate to have a higher ranking officer in that capacity, on that vessel, who would be charged with the responsibility of training relatively green individuals?

Admiral HAYES. Well, I suppose one has to look at the relativity, Mr. Biaggi. The *Eagle*, which will be carrying on board 200-some cadets, plus its own officers and crew—I think the total number that is capable of manning is upward of 300 total—has a captain or a very senior commander in command.

The *Reliance*, which is a 210-foot cutter, with an onboard complement of upward of 70-some-odd, is commanded by a commander. Of

course, here we are dealing with a 125-foot vessel in tonnage, far, far smaller than half the size of the *Reliance*, and not all that much larger than a 95-foot patrol boat, which we command with lieutenant junior grade, with far less experience.

So it is a matter of judgment, I suppose. I think a properly indoctrinated chief warrant officer would be ideal for that purpose. I truly do, from my own experience and background.

Mr. BIAGGI. You do not plan to make any changes in the assignment methods for commanding officers, then?

Admiral HAYES. Of course, we no longer have the *Cuyahoga*, Mr. Chairman. That was one of a kind, and I have not yet decided what we will do to fill that gap. For the time being it is my intention to probably use the *Reliance*, until we make a decision on whether or not to try and assign another replacement vessel.

Mr. BIAGGI. What rank of officer will be in command of the *Reliance*?

Admiral HAYES. A commander, Mr. Chairman. He would have experience of anywhere from 14 to 20, 21 years, depending upon his seniority.

Mr. BIAGGI. Mr. Chairman?

Mr. MURPHY. Yes.

Was Mr. Robinson a master licensed for ocean service?

Admiral HAYES. No, Mr. Murphy, he was not.

I might add, sir, there are very few commissioned officers in the Coast Guard who hold that master's ticket. It is one of the things that I started evaluating before this rather tragic incident occurred, as to whether or not it was not time that we started qualifying all of our commissioned officers with the same kinds of licensing requirements that we were laying on the merchant marine. We already have instituted a pilot program to that effect.

Mr. MURPHY. The commander of the *Eagle*, is he a licensed ocean master?

Admiral HAYES. Captain Welling is not, no, sir.

Mr. MURPHY. What vessel will replace the *Cuyahoga*?

Admiral HAYES. I have not yet made that decision, Mr. Chairman.

Mr. MURPHY. Under whose command was the *Cuyahoga*? I am not talking about Captain Robinson as the commanding officer. The *Cuyahoga* itself was in what structural command of the Coast Guard?

Admiral HAYES. The *Cuyahoga* was under the operational command of the commanding officer of the training center, reserve training center at Yorktown. She was under the administrative and support command of the commander, Fifth Coast Guard District. It was his responsibility, that is, the commander of the Fifth Coast Guard responsibility, to provide the personnel support, the engineering support, the electronics support to that vessel.

Mr. MURPHY. Did the *Cuyahoga* operate under an approved training program?

Admiral HAYES. Yes, it did, sir.

Mr. MURPHY. Was training being conducted at the time of the incident?

Admiral HAYES. Yes, it was.

Mr. MURPHY. And the 11 casualties were below deck?

Admiral WOOD. Without reference to the report, sir, I cannot be precisely sure, but in general terms, no. There were several of the personnel, as far as the Board could determine, who were topside at the time of the accident.

In one particular case there was an individual on the portside of the vessel, seen by one of the survivors, to be topside just moments before the collision, and he was subsequently recovered, some short distance from the hull. So there was at least one that was topside.

I cannot, without reference to the report, recall where all of the 11 deceased were located.

Mr. MURPHY. Did the Marine Board bring before it the captain of the *Santa Cruz*?

Admiral HAYES. I did not understand the question.

Mr. MURPHY. Was the captain of the *Santa Cruz* interviewed by the Marine Board?

Admiral WOOD. Yes, sir. The Board convened in Baltimore initially, and then subsequently, both in Yorktown and in Norfolk, to receive testimony. Testimony was received from the master, the pilot, the first mate, and I believe three other crew members of the *Santa Cruz*, who were on watch at the time. Their testimony is available, and a summary of the situation is provided in more complete detail in our report.

Mr. MURPHY. Was the *Santa Cruz* in any way negligent? Was its radar operating properly, and did it procedurally follow the rules of the road?

Admiral WOOD. With respect to the rules of the road, sir, I would like to consult here for a moment.

[Short pause.]

Admiral WOOD. That conclusion has been made by the Board, and is currently pending review by the Commandant, and I do not feel totally at ease in answering the question.

The Board did make a judgment with respect to that, and I would like to have a dialog whether it is appropriate for me to answer in this forum. I do not feel comfortable doing so at this moment.

Mr. BIAGGI. When would you like to have that dialog? Are you talking about an immediate dialog with the admiral?

Admiral WOOD. With the caveat that it is my opinion, sir, and subsequent to this, there will be official actions and reviews taken.

It is my opinion that the vessels were in a meeting situation as early as when they each sighted one another, and proceeded to approach. It was plotted by us, to our best estimate, that they would have passed port to port, at approximately 0.4 miles, had the *Cuyahoga* not changed course. In a meeting situation under the rules, neither vessel is a privileged vessel per se.

At the moment that the *Cuyahoga* changed course, the pilot saw the light shift from red to red green to green, and it is the collective testimony that at that moment there was uncertainty on the bridge of the *Santa Cruz* as to what the situation was.

It is my reading of case law and other references in this matter that had the pilot at that moment exercised his judgment that he would not be subsequently second guessed, but his testimony was to the effect that he considered this to be a crossing situation, and

held his course, and speed, on the basis that it was in fact a crossing situation.

If he had, rather than made that judgment, determined that it was a meeting situation, and among the alternatives that he had available to him, had chosen to maintain course and speed, the fact situation would be different.

So, it is my opinion that at the moment that the vessel changed from red to red green to green, and the indecision occurred in the mind of the pilot, that the rules clearly called for him to sound a danger signal at that moment, rather than the single blast which he sounded. If he had sounded the danger signal, and the *Cuyahoga* had reacted, it is my opinion that the *Cuyahoga* could have reacted soon enough to avoid the accident.

By sounding the single blast, it was not clear enough to those on the *Cuyahoga* that the situation was confused. Therefore, they proceeded to attempt to answer this, and I believe, as I mentioned earlier, that at that juncture, Robinson still was of the opinion, obviously wrong, that the vessel was proceeding in the same direction that he was, and therefore did not take the correct action to avoid the impact.

So, that to the degree that the pilot did not sound the danger signal at the time that uncertainty set in his mind, it is my opinion that he was in violation of the Pilot Rules.

Mr. MURPHY. Do you feel that Mr. Robinson's physical condition, for instance, whether or not he had asthma or bronchitis, and the question of his visual acuity, had any effect on his actions?

Admiral WOOD. We were unable to determine that with precision, because of his being directed not to testify before the Board. The possibility exists, the way we summarized it in our report. The precise situation, as we were able to develop it, was just left unclear.

We had an ophthalmologist come before the Board, and he was unable to give us an expert opinion as to the effect of the visual acuity that he had. Whether the myopic condition would not have caused him to see the lights differently than they were actually.

Mr. MURPHY. Would the *Cuyahoga* normally have proceeded out to sea?

Admiral WOOD. Not to my knowledge, sir.

Admiral HAYES. I think the answer to that, Mr. Chairman, is no.

Mr. MURPHY. When was Mr. Robinson's last physical examination?

Admiral HAYES. Could we provide that for the record, Mr. Chairman? I do not have that available at the moment.

[The following was received for the record:]

ROBINSON'S PHYSICAL

CWO Robinson's last physical was conducted on 14 December 1977. He was found fit for duty ashore and afloat.

Mr. MURPHY. Did the commander of the Fifth District have a requirement that officers in command of vessels complete their physical examinations, and meet certain standards, in order to continue to operate vessels in situations such as this?

Admiral HAYES. Well, actually, there is a requirement, Coast Guard-wide, Mr. Chairman, for the degree of frequency that we

require for annual physical examinations. That is one area we have already reviewed, and are in the process of changing.

My chief, Office of Personnel, is about to produce a requirement that every commanding officer will, prior to assignment, receive a thorough physical examination, and then will be required to have one annually, during the course of his command.

As I say, we have uncovered some deficiencies that we think need correcting, and this is one of them.

Mr. MURPHY. I have no other questions at this time.

Mr. BIAGGI. Mr. Lent?

Mr. LENT. Thank you, Mr. Chairman.

Admiral HAYES, I am concerned about, on the question of what role the age of a vessel, or this vessel, played in contributing to the accident, if any.

In your opinion, had the *Cuyahoga* been an up-to-date, modern training vessel, and the commanding officer of that vessel turned a left into the path of an oncoming vessel the size of the *Santa Cruz*, would it have made any difference in the end result?

Admiral HAYES. Well, of course, obviously, Mr. Lent, any answer to that is somewhat speculative in nature, because it would depend on so many factors. But let me say this.

As far as the way in which this casualty occurred, first, the type of vessel, the size of the vessel, its construction, would have made no difference, in my judgment. I think, as the president of the Board has indicated, the responsibility for the casualty, the primary cause, at any rate, is pretty clear.

I think if you looked at the whole spectrum of Coast Guard vessels, the environment in which they operate, the mix we have of vessels, which as I mentioned earlier, harken back to a construction period in World War II, suggests that they can be navigated safely and effectively in performing Coast Guard missions.

I just call it to the committee's attention, for example, we have the 180-foot tenders, which were built about 1943, on the average. These vessels are currently engaged in aids to navigation work, fisheries patrol, and search and rescue in waters as severe as the Bering Sea, and the Gulf of Alaska. They perform extremely well. They are fine sea boats, they are poor in habitability. We have renovated them with respect to engines, and other things, which, incidentally, we have done only partially with *Cuyahoga*.

So I really would have to say *Cuyahoga* is one of a kind with respect to how ancient she was, and furthermore, she was limited in her operations.

Mr. LENT. So it is fair to say that the age of the *Cuyahoga* was not a contributing factor?

Admiral HAYES. Only to the extent, Mr. Lent, that had we had a more modern vessel, with greater watertight integrity, and better compartmentation, then to that extent we might not have lost that vessel.

Now, I would comment that the majority of the personnel, we found out afterward, had died not from drowning but had died from broken necks, and fractured skulls, from the impact itself.

Mr. LENT. Now, is radar generally used in inland waterways as a guide to navigation, when visibility was such that it was on the

night in question? I think it has been described as a clear night, with unlimited visual observation.

Admiral HAYES. Absolutely, Mr. Lent. But we have rather stringent requirements that require commanding officers to maintain a plot of their vessel's location on navigation charts at all times.

So there is no question but what there is a requirement to use all the aids to navigation that they might have on the bridge of the ship.

Mr. LENT. Now, there was something in the——

Ms. MIKULSKI. Excuse me, Mr. Lent.

For your information, the radar on the *Cuyahoga* was not on the bridge, where it normally would be, in easy access to the commanding officer. It was in another part of the ship, and for the commanding officer to see the radar, he had to leave the bridge, go and take a look at it, run back to the bridge, and then run back down to the radar.

So when they said they had radar, it is a bit of an illusion, particularly for a vessel in a crisis situation.

Mr. LENT. What I was wondering was, given the commanding officer's left turn, and the clearness of the night, whether or not the presence of radar, even if it had been on the bridge, would have made any difference at all.

Admiral HAYES. Not the slightest, Mr. Lent.

The problem was not one of using the radar to determine the action. I think, as any good seaman will tell you, the seaman's eye on a clear night is far better than radar is, to judge the actions of another vessel, and it is indeed an aid to the commanding officer, particularly in reduced visibility, in those kinds of situations.

Mr. LENT. Could he not have plotted the course of the oncoming *Santa Cruz* on the radar?

Admiral HAYES. Most certainly he could have, and I think I would answer it this way, Mr. Lent. I happen to have navigated on Chesapeake Bay a goodly number of times, on a ship that I once served on. The traffic in Chesapeake Bay is so substantial that the commanding officer himself is far better off being the one who is looking ahead and evaluating the lights of vessels, and requiring his navigational team to be doing the plots, and to assure that they are confirming whatever his own judgments are from the way in which he is viewing what he sees ahead, and to either side.

I emphasize that the piloting of a vessel in these kinds of restricted waters, where the tracks of other vessels are known, the track lines that are shown in the report, for example, are regular track lines that every vessel bound up and down the bay uses.

The meeting situation which Admiral Wood described, is a very common one that occurs regularly, as one transits the bay. It was not an unusual situation, is the point that I am making.

Mr. LENT. There is a statement in the National Transportation Safety Board's Marine Accident Report of February 26, 1979, that indicates the fact that there were drawers located between the rungs of the escape ladder that might have played a role in this loss of life.

Admiral HAYES. I have read that, Mr. Lent.

Mr. LENT. I am concerned whether this is common construction in other Coast Guard ships, to have these dresser drawers, so to

speak, situated between the rungs of an escape ladder, so that when the vessel is in a tilted position, those drawers might have a tendency to come out, and block access to escape.

Admiral HAYES. Well, certainly it may well have caused a problem on that vessel. I am not aware of any other vessel in the Coast Guard, Mr. Lent, that has this specific kind of construction.

Mr. LENT. I wondered if that was common in the Coast Guard. You say it is not?

Admiral HAYES. No.

Mr. LENT. How about in the merchant marine?

Admiral HAYES. I would doubt it very seriously, with the vessels that are on the seas today, Mr. Lent.

Mr. LENT. I have no further questions.

Mr. BIAGGI. Before I yield to the gentlelady, Ms. Mikulski, I would like to get something clear in my own mind, in relation to the proximity of the radar to the bridge. I have listened to my colleagues, and it seems like there is a marathon going on. It is inconceivable to me that a ship would be designed in such a fashion that the radar would be that remote from the bridge.

In fact, how far was the radar from the bridge?

Admiral WOOD. We did not measure it, Mr. Chairman, so this is a guess on my part, but I would say that from the wing doors on the access to the external wings of the bridge to the radar from the portside, was probably on the order of 15 feet or so, and to come in from the starboard side and around the corner, is probably 10 to 15 feet. It was on the starboard side of the compartment, immediately aft of the bridge. It was reasonably accessible, but it was not on the bridge itself.

Mr. BIAGGI. You make it sound like you had to leave the bridge, run down a block, and go around the corner.

Ms. MIKULSKI. You did have to leave the bridge and go around the starboard corner, did you not?

Admiral WOOD. Yes.

Ms. MIKULSKI. When you say 15 feet, it is not exactly the length of this, where he could turn and go back. He had to leave the bridge, go down 15 feet, go through another door, and look at it?

Admiral WOOD. No, ma'am. The situation would be to go from where you are sitting, to approximately on the same deck level, and look out the window, and then go back to your chair. That is a rough approximation.

Ms. MIKULSKI. That takes a lot of time, when you are in a collision course, though, does it not?

Admiral HAYES. Well, let me put it in perspective a little bit.

First of all, I am not trying to argue with you on the point, Ms. Mikulski. But on our larger ships, if you are standing on one side of the bridge, and the radar is on the other side, you are 30 feet away from it.

Ms. MIKULSKI. But you can still keep your eye fixed on the position?

Admiral HAYES. Not when you are looking at the radar.

Ms. MIKULSKI. I mean when you are moving.

Admiral HAYES. I suppose that is correct, yes. Yes. It is not as desirable as having the radar in the pilothouse, where the commanding officer, or officer of the deck, can be looking at the radar,

he can hear what is going on around him, he can also very quickly look out, and then refer back to the radar. That is the more desirable location, without any question whatsoever. On our very older ships the radar indeed, though, was located—in ships built as recently as World War II, I might add. The practice usually was to have the principal radar console, what is called the combat information center, and a radar repeater in the bridge, of the pilot-house. This should have been done on this ship.

Ms. MIKULSKI. Thank you, Mr. Chairman.

Mr. Chairman, much has been made of the role of the commanding officer. Because we place so much emphasis on the authority and the judgment of the commanding officer, I was interested in pursuing the Coast Guard's own material, as well as the Safety Board's, and the Marine Board of Inquiry as to the proficiency of this particular commanding officer, and how it relates to other commanding officers.

For the benefit of the committee, it might be interesting to know that when the commanding officer was instructed to be commander of the *Cuyahoga*, he was recommended to take certain courses—specifically they were ship handling, and the rules of the road. He never did, and nobody—everybody left it to his decision.

He did receive a sea orientation manual, under the cover of the Commandant's request, and it outlined the Commandant's policy, encouraging again, to take training specifically related to the rules of the road, navigation, and ship handling.

Commander Robinson testified that he had not undergone classroom training; rather, all of his experience was practical, and quite frankly, those were on modest-sized crafts. That leads me to ask, therefore, who was in charge of the commanding officers?

No. 1, what do you mandate that those commanding officers know; No. 2, who checks that those courses have been taken, and No. 3, what proficiency tests do you have for your commanding officers to insure that they do know things like navigation, rules of the road, ship handling, and evacuation procedures?

Admiral HAYES. Let me see if I can recall your questions in order.

Ms. MIKULSKI. My first question is, What is it you mandate a commanding officer to know?

Second, who is in charge of making sure that he knows it; and, third, what type of proficiency tests do you give to guarantee that he knows it?

Admiral HAYES. Well, as far as mandate is concerned, our commanding officers go through a rather rigorous prior service qualification arena. We have it first early on, a junior officer's training course, which is currently mandated. At the time that Mr. Robinson went through this, I can assure you that that was not the case.

We are—if I can separate out what we did before, and what we are doing now, we are now looking at the possibility of establishing a commanding officer, executive officer school that will provide certain advanced training to commanding officers before they go aboard, a kind of update on things that they should be aware of that may have changed since their last tour of sea duty.

One of the requirements that we have had in the past is that they have been recommended for command by a prior commanding officer, although that has not been applied consistently.

So, in general, I think the answer to your question is rather minimal, dependent upon, nevertheless, an awful lot of experience, review boards, selection panels for command, who very carefully look over the entire record of the person who is going to be assigned to command, and frankly, I must say, from having had a very recent operational command, in perhaps one of our most severe weather districts, our process, in my judgment, is working very well.

I was truly proud of our commanding officers, their professionalism, and their capability. I think in this particular instance we can be fairly criticized, but in general it is my overall judgment that the process is working very well. I am not satisfied, however, that our requirements that we are laying on for command are as mandatory as they should be, and we are looking at several things.

I mentioned a while back, for example, we are already into a pilot program to require our commissioned officers to take the same kinds of examinations, or at least similar ones, that we are requiring of the merchant marine. So that they will be familiar with that, as well as at least be demonstrating that kind of competency. It will have to be modified for our own purposes.

Ms. MIKULSKI. Admiral, I find that those reforms that you currently have under study to be very encouraging, because it is my feeling that the Coast Guard should have, for itself, the same standards that it places upon others.

I happen to believe that practical experience is, in many instances, an adequate substitute for classroom training, and particularly when we are talking about maritime skills, there is no substitute for properly supervised experience, and moving up in terms of complexity of assignments.

So do not think that I am just a classroom gal here. But at the same time, what concerned me was that there was no objective criteria in terms of, one, mandating a particular curriculum that a commanding officer had to have prior to assuming command—and I would like you to, not really pursue that today, but pursue that in your evaluation—and two, that there be some type of objective proficiency standards in these issues related particularly to navigation and other areas of command.

Admiral HAYES. Certainly in principle I do not think I disagree with what you are saying. I think it is a perfectly legitimate requirement, and as I mentioned, we are looking to just do that, partly to give our people also a better understanding of what it is, what we are requiring of those who sail in the merchant marine.

Ms. MIKULSKI. That brings up another question related to proficiency. Are different levels of proficiency demanded for commanding officers, depending on the nature of the vessel?

In other words, I know that some of the sea duty assignments of Coast Guard people are in very treacherous northern waters, others are in rather tranquil inland waterways. Some ships are 40 feet long, some are quite substantial in size and complexity. So do you have different performance standards, depending on the nature of the vessel?

Admiral HAYES. Not really. Not in the sense that you are talking about, Ms. Mikulski. For example, our 95-foot patrol boats are skippered by young lieutenants, junior grade, incidentally, who come from both OCS and the Academy background. They probably had a total commissioned service at that point of an average of 3 years, and yet they are placed in command, they are given the full responsibility, they have been trained and selected by virtue of their performance on board larger units in all hosts of activities. It has worked extremely well.

Ms. MIKULSKI. Certainly, but when you have this lieutenant junior grade, or whatever his proper rank is, on his first assignment, you say that he has the same proficiency standards that your more senior officer has. You would not send that young man or woman to the Alaskan waters to command an icebreaker, would you, at that level?

Of course, you cannot hit anything up there, other than an icebreaker.

Admiral HAYES. Let me explain. In Alaska I had four 95-foot patrol boats. They were commanded, each of them, by lieutenant junior grades, who performed superbly.

Ms. MIKULSKI. What were you on?

Admiral HAYES. I am sorry?

Ms. MIKULSKI. They were on the smaller boats. What were you on? Were you in charge of a larger vessel at the time?

Admiral HAYES. No, I commanded the district, in its entirety.

Ms. MIKULSKI. So you are saying then that there are no gradations, and just to use a Navy analogy, the same person who has command of a PT boat could command an aircraft carrier?

Admiral HAYES. No, I would not say that at all. A lieutenant junior grade, who is commanding the WPB is in the first echelon of his learning. I am saying, though, that these responsibilities, with the mission of the Coast Guard, unlike the Navy, are identical to the—

Ms. MIKULSKI. But when you are given a new mission assuming greater complexity, do you then demand different, or more intense, or more expanded skills?

Admiral HAYES. Certainly, and we provide those through training. For example, those 95-footers were taken to the Police Academy at Sitka, where they were trained in how to deal with law enforcement situations, which they were becoming increasingly involved in.

I do not want to give the committee the impression that we just throw somebody into the breach without any training or any abilities; that is not the case at all. But I do want to emphasize that command, regardless of what level or size, is carrying very similar responsibilities with respect to the missions of the Coast Guard. The young man at the lieutenant junior grade level is not as proficient with respect to organization and how one leads and manages a large number of personnel. He is in a learning situation, no question about it. Obviously he has to start somewhere.

Ms. MIKULSKI. I have no quarrel with that. But my concern again, is, as he changes his command, do you then have different types of proficiency tests, more as you move up? Who decides this

lieutenant is ready to take on a larger, more complex sea duty command?

Admiral HAYES. Our entire personnel management system really produces that answer, Ms. Mikulski, and as I say, in my judgment they have been doing so extremely well. Before he goes to the next command, all of his fitness reports are reviewed; the fitness reports are written by experienced officers who have been overseeing the way in which he carries out his operations in a prior job. It is really very candidly, in my professional viewpoint, it is a pretty good system.

That is not to say it could not be improved upon, and I indicated that we are looking to do that.

Mr. BIAGGI. Would the gentlelady yield?

Ms. MIKULSKI. Yes, Mr. Chairman.

Mr. BIAGGI. I understand the point to be, Admiral, that the responsibilities are similar—the responsibilities are similar for the young officers, as well as for the senior officers.

Now, however, I am sure the Coast Guard, in its assignment, gives consideration to the amount of experience that each individual has, and it is hardly likely that they would get a new officer and put that new officer in command of a major assignment, or a larger ship, unless there is a great deal of experience beforehand. Is that a fair assessment of your process?

Admiral HAYES. I guess I would have to answer, "Partly," Mr. Chairman. Let me explain what I mean.

We have a dichotomy in the Coast Guard that I touched upon, you may recall, last week in discussing our future goals and objectives with the committee. The dichotomy is this. On the one hand every single mission that we perform, whether it be regulatory in nature, or be performed at sea, has to do with the maritime environment.

It is my contention, and I think it is shared by most Coast Guard people, that in order for a person to regulate the industry properly, he or she should have at least a modest experience in association with the sea, to understand its vagaries, to understand what problems are aboard ship, and so on.

In the last 10 years, there has been a change in the balance of the number of ships that we have in the Coast Guard, as compared to the shore assignments. If you look at the total number of people going to sea versus the number of people who are ashore, that disparity has grown in the last few years, as we decommissioned about 20 vessels, after Vietnam.

What has happened is that, in order to give at least modest seagoing experience to our people who are regulating, there are not enough hulls to assure that we are keeping onboard the ship someone who has 8, 10, or 12 years sea duty, which perhaps was the case 10 or 20 years ago. And the problem, of course, is at what point do you refuse any longer to assign a person to command, or as executive officer, or to a position aboard ship, and that is why I say partly we are trying to do it on two bases.

One, a highly productive leader, and manager in some other parts of the Coast Guard ashore has proven in the past also to be a quite competent commanding officer at sea, because the skills he picks up very quickly. As far as maneuvering the ship, and so on,

having learned them once before, his ability to operate the ship, and to make decisions, and to lead the crew, and maintain morale, and keep the vessel maintained, prove to be about as good as the fellow who has been at sea all his life. Not quite, obviously.

So it is this kind of problem that we are constantly struggling with to, on the one hand, provide that experience ashore, and the other to make sure that we keep professionals at sea.

Now, there is one other thing I might mention, and that is that we do have command selection boards for our major commands, and that, of course, follows the line that Ms. Mikulski was pursuing.

Do we have different standards for the bigger jobs, and the answer really is yes, if you look at the more stringent selection process we have for command.

Mr. BIAGGI. Ms. Mikulski?

Ms. MIKULSKI. Admiral, you talked about this personnel review system that you have, and I do not want to take the time of the committee for you to describe that in detail. I would like you to submit that method of selection to both the committee and myself, and look at it, and then we can perhaps pursue some of these questions, other than at this hearing process.

[The following was received for the record:]

SELECTION OF COMMANDING OFFICERS FOR ALL VESSELS NOT COVERED BY
COMMAND AFLOAT BOARD

I. Identify personnel requesting these assignments who are due for rotation.

A. Screen identified personnel for desired experience.

1. See enclosure (1).

2. With the exception of WPB CO selectees, not presently afloat.

3. Afloat duty within the last seven years.

B. After screening out personnel not meeting above criteria, review performance level of remaining personnel. Select *top* performers (pay particular attention to performance when last afloat). Prior to assignment screen intelligence files and ensure PCO is found FFFD within the last six months. If an XPO is involved, coordinate transfer with G-PE to provide CO/XPO continuity.

II. If above steps do not identify enough personnel to fill vacancies, use one or more of the following procedures in the order indicated:

A. Assign personnel presently afloat who meet other criteria.

B. Assign personnel who request these assignments, but have not completed their normal tour of duty at their present unit.

C. Assign personnel who have not requested these assignments, but who meet all criteria.

III. All Afloat Commanding Officers will be recommended by G-PO-2/1 (0-4), and approved by G-PO-2 (0-5), G-PO/2 (0-5) and G-PO (0-6).

ADDITIONAL NOTES ON AFLOAT ASSIGNMENT PROCEDURES

1. Relative training levels of personnel being considered for assignment are considered.

2. Proven performance is considered to be the most important consideration for assignment afloat.

3. Personnel assigned to new vessels (WYTM 140's) are carefully screened to identify experienced, *top* performers.

4. Afloat assignments are given higher priority than any other assignments.

<u>TYPE VESSEL</u>	<u>BILLET</u>	<u>RANK</u>	<u>DESIRED EXPERIENCE</u>
WAGB	XO	CDR	CO WLB or XO WHEC, WMEC
	OPS	LT	CO WPB, WLM, or DWO WAGB, WHEC, WMEC, WLB, WLM
WHEC 378	XO	CDR	CO WLB or XO WHEC (less 378), WMEC
	OPS	LT	CO WPB, WLM or DWO WAGB, WHEC, WMEC, WLB, WLM
WHEC (less 378)	XO	LCDR	CO WLM or XO WLB or OPS WAGB, WHEC, WMEC
	OPS	LT	CO WPB, WLM or DWO WAGB, WHEC, WMEC, WLB, WLM
WMEC	XO	LCDR	CO WLM or XO WLB or OPS WAGB, WHEC, WMEC
	OPS	LT	CO WPB, WLM or DWO WAGB, WHEC, WMEC, WLB, WLM
WLB	CO	LCDR	CO WLM or XO WLB
	XO	LT	XO WLM or DWO WLB, WLM
WYTM	CO	LT	CO WPB, WLM or XO WYTM, WLB, WLM or DWO WAGB, WLB-WLM (with ice experience)
	XO	LTJG	DWO WAGB, WLB-WLM (with ice experience)
WLM	CO	LT	XO WLB, WLM or CO WPB (with DWO WLB, WLM)
	XO	LTJG	DWO WLB, WLM
WPB	CO	LTJG	DWO WAGB, WHEC, WMEC, WLB, WLM
WLM	CO	BOSN4	CO WLM, WLV, WYTM, WLI, WLIC, WLR, WIX or 1st LT WLB, WLM
WLV	CO	BOSN4	CO WLM, WLV, WYTM, WLI, WLIC, WLR, WIX or 1st LT WAGB, WHEC, WLB, WLM
WYTM	CO	BOSN4	CO WLM, WLV, WYTM, WLI, WLIC, WLR, WIX or 1st LT WLB, WLM
WLI	CO	BOSN4	CO WLM, WLV, WYTM, WLI, WLIC, WLR, WIX or 1st LT WLB, WLM
WLIC	CO	BOSN4	CO WLM, WLV, WYTM, WLI, WLIC, WLR, WIX or 1st LT WLB, WLM
WLR	XO	BOSN4	CO WLM, WLV, WYTM, WLI, WLIC, WLR, WIX or 1st LT WLB, WLM
WIX	CO	BOSN4	CO WLM, WLV, WYTM, WLI, WLIC, WLR, WIX or 1st LT WLB, WLM

Ms. MIKULSKI. I would like to move on a second to the other aspects relating to the commanding officer and his responsibility. I was heartened to hear you say that you were instituting a procedure by which commanding officers would now receive annual physicals—I would assume complete physicals—in line with their duty.

In addition to that, because of the time period between these physicals, a commanding officer could develop an illness, No. 1, or begin to take medication, and so on.

Will you also be developing standards for commanding officers to report during the process of that year any change in his medical condition, and if he is taking medication of any type?

Admiral HAYES. I do not know the answer to the question, Ms. Mikulski. It is an extremely complicated problem. I think probably I much prefer to go back to the point I made earlier.

The commanding officer himself is the responsible person. In my judgment, he, better than anyone else, is able to determine whether or not he is fit physically to command and I, as a matter of fact, in command myself, have had to make that judgment on at least one occasion.

I do not know of any way, any administrative process, or anything that you could set up that would any more guarantee that a physical disability would perhaps result in a casualty, than if you put the burden right on the commanding officer.

Now, we are looking at one aspect of this, and that is the extent to which we can at least provide some guidance to commanding officers with respect to drugs they might be taking, and that kind of thing, so that at least they can feel that if they have indeed been taking certain drugs for an illness, that nobody is going to get mad at them if they indicate this, and perhaps be relieved of command until that sickness has passed.

Ms. MIKULSKI. You see, that was exactly my point, Admiral. Because fear is a terrible thing, and sometimes fear can cloud our judgment, as well as even our sense of honor. There are several things that work here.

No. 1, the commanding officer is supposed to make his own decisions, that is, in terms of his own fitness for duty. You had a commanding officer on the *Cuyahoga* who wore glasses.

I note that you, like I, wear them. He had sunglasses, prescription glasses, which he wore by day. He did not wear any by night. I am not an ophthalmologist, and I could not get an ophthalmologist to comment without review. But you had a guy who had been diagnosed as myopic, who was supposed to wear glasses, who, his own crew said, never did. He was on this drug, that there is a great deal of confusion about, for bronchitis called Theophylline, which has the effect of being an upper. It creates the jitters, and usually it is taken in conjunction with Phenobarbital. If you put that all together with one person, we do not know the synergistic effects on that. And, although I am not implying this about Commander Robinson, suppose you have a Captain Queeg in the Coast Guard, suppose the guy is on his way to becoming schizophrenic or paranoid, he is not going to say in addition to seeing red green lights, I also see dolphins and mermaids, I see the great Admiral coming to me.

Do you see my point, that there are certain kinds of illnesses? It did not seem to be working on the *Cuyahoga*.

Second, sometimes the nature of the illness could inhibit someone from bringing it out in the open, to seek treatment. Are there going to be standards along this line?

Admiral HAYES. Really, I did not mean to suggest that we do not have any standards and it is left entirely up to the commanding officer. Indeed, we do have, and basically those standards are set forth in our Medical Manual, and if a person seeks audience with a doctor, as most people do when they are ill, it is the doctor's responsibility to determine fitness for duty, and this is a regular process that we have throughout the entire Coast Guard, as to whether a person is in fact fit for duty because of a specific illness or condition.

Mr. BIAGGI. Would the gentlelady yield?

I was interested in your comment of, it is a regular process. I would like, if we could elaborate on that, if we could. Who initiates the examination, the officer?

Admiral HAYES. Yes, the individual, of course, yes.

Mr. BIAGGI. Let us deal with the realities of life.

The commanding officer suffering some ailment, fearful that he might be removed from his command, even temporarily—it is a natural reaction—would choose not to disclose his ailment, go to a private physician rather than one in the Coast Guard's medical department. It would seem to me that, consistent with the question that Mr. Murphy asked, when is the last time Mr. Robinson was examined—and you are going to provide the answer for the record—but there should be some procedure whereby individuals are examined on a regular basis and initiative taken by the Coast Guard rather than the individual.

Admiral HAYES. Could I ask the chairman what you have in mind when you say "on a regular basis"?

Mr. BIAGGI. Well, if my understanding is correct, you have no regular procedure now?

Admiral HAYES. That is correct, right now.

Mr. BIAGGI. Anything would be an improvement. I am not saying 6 months. Every year, every 2 years—anything would be an improvement.

Admiral HAYES. I think that is an absolutely workable thing, and we already have made the decision to do that, Mr. Chairman.

Mr. BIAGGI. Fine.

Admiral HAYES. We are going to require an annual physical examination of all those in command.

[The following was submitted:]

PHYSICAL EXAMINATIONS

Specifically addressing Commanding Officers that is correct. However, all officers are required to undergo physical examinations. Those under 36 years of age every 3 years and those over 36, annually. I am initiating procedures whereby all vessel Commanding Officers will be examined annually, regardless of age.

Mr. BIAGGI. Ms. Mikulski?

Ms. MIKULSKI. I would like to move away from the commanding officer. I think our points are clear in what I hope would come out of this training than their fitness for duty. I now would like to move on to the training for seamen who serve under the command-

ing officer and, as you indicated, Admiral, and I would agree, that there is no substitute for the trained seaman's eyes.

But I would like to talk just 2 seconds, Mr. Chairman, about the men who were in charge of the lookout on the night that the *Cuyahoga* occurred. The quartermaster——

Mr. BIAGGI. Ms. Mikulski, it will be more than 2 seconds.

For your information, I stated in my opening statement that this meeting is called because you and Mr. Bauman requested it, and we recognize your constant concerns and we intend to give the gentlelady as much time as she would require or desire.

Ms. MIKULSKI Thank you, Mr Chairman. You are very gracious. Let me move on here.

The quartermaster of the watch had 14 months active duty in the Coast Guard, Mr. Chairman, and he had no previous sea duty. But he was the quartermaster of the watch. The 17-year-old on lookout had no previous sea duty; had no formal training in the duties of a lookout; had received only brief verbal instructions to report any objects that he saw, and these instructions were issued immediately before he assumed duty. So the quartermaster had no previous sea duty and the young man directly in charge of the watch itself had no previous sea duty and no formal training in terms of the watch.

Mr. Chairman, you have been on the water at night. It is very hard to distinguish what lights are what, particularly when you are in an inland waterway. Lights can be very confusing on the Chesapeake Bay

So with that in mind, my question then becomes, what is it when you have an apprentice seaman standing watch; what were the mandated requirements that he should have had in terms of his training?

In other words, what was Seaman—and I will refer to him by name, the 17-year-old standing watch—Michael Myers, what was it that he should have known when he assumed that responsibility and how did we know that he knew it? Why do not we have any standards?

Admiral HAYES. If I may, Ms. Mikulski, let me expound on this point. I think it would be worthwhile.

Ms. MIKULSKI. Yes.

Admiral, I am just, again, not to keep it focused on the *Cuyahoga*, but what I am interested in is what are your training standards?

Admiral HAYES. That is what I want to provide the committee, because it will help put it in perspective a little bit, what is required.

On every vessel of the Coast Guard—and this would have been no exception—we have specific training requirements. The training officer, whoever it is expected to be, will have lesson plans for each of the various functions that go on aboard that ship and the personnel who are assigned to them are expected to be trained with respect to those and they are fairly standard throughout the Coast Guard.

There is a lesson plan for a lookout; there is a lesson plan for a helmsman, and I could go on.

The training approach that we take aboard ship is a combination of three different kinds of training. One is this that I have just mentioned, the onboard individual training, which runs the people, as they come aboard, through a whole series of lessons.

Now, when they first go on lookout they are not going to be qualified; that is clear. They will be trained and told what to do and to the extent that the training officer assures that he makes sure, with an untrained lookout, that they are backed up, that clearly is his responsibility.

The second type of training is where we send our people to specific schools, firefighting schools, these kinds of things, which deal with specific problems aboard ship or deal in technical areas.

Then the third type of training is unit training, where we take the entire vessel, send it to Guantanamo Bay or Pearl Harbor and the entire ship goes through all evolutions, and this sort of things.

The *Cuyahoga* had not been put through any kind of refresher training, to my knowledge, at any time in the recent past.

I, in looking at the facts, without having evaluated the conclusions and recommendations, it is clear, to me at least, that there was some training with respect to the vessel and the crew. I thought that would put the whole training in perspective.

Ms. MIKULSKI. It does.

These lesson plans that these students take, are they then, in addition to the plans, which outline curriculum, skills, objectives, those kinds of things, then is there some kind of examination given; is there some kind of writing or passing examination that determines that they learned the concept of that lesson plan?

Admiral HAYES. I think for the most part the answer is no.

Ms. MIKULSKI. Do you see what I mean?

Admiral HAYES. Well, let me comment if I may.

I understand what you are saying as far as the examination is concerned. I suppose that is an area where people have differing viewpoints I do not happen to be one of those that is all that convinced that examinations necessarily prove ability. All examinations prove is that knowledge for the portion that we talked about earlier, rather than the skill itself—and my concern is that already, an overburdened ship that is operating 50 percent of its time, that we add on more and more requirements on the commanding officer in the paper end of things.

Ms. MIKULSKI. Well, what do they learn before they are on the vessel?

Admiral HAYES. I am sorry; I do not understand.

Ms. MIKULSKI. Do these lesson plans all take place when they are on the sea?

Admiral HAYES. Well, the lesson plans that I am talking about apply to those who are aboard ship.

Now, if you go into ports and waterway safety contingent, Marine Safety Office, they have their lesson plans. They have their training programs. So wherever you would go in the Coast Guard, you would find this kind of thing to a greater or lesser degree, depending on the complexity of the job.

Ms. MIKULSKI. Admiral, referring to the safety of afloat training and personnel report developed by Secretary Brock Adams, roman numeral II, page 16, they outline the curriculum for seamen ap-

prentices and it goes through things like customs and courtesy, military conduct, small arms, damage control, watches, watch quarters station

When do these young men and women learn this? Do they learn this on land, do they learn it on sea, or is it divided?

Admiral HAYES. I think the correct answer to the question is, for the most part, they learn that at sea. They learn that after they get aboard their first ship. They will have been exposed to it from the standpoint of knowing such things as watch quarter and station bills exist, having looked at one, seeing what it is made up of, but until they get aboard ship, engage in their first drills, begin to get instructed and trained in what all these things really mean; all they are doing, as we discussed earlier, is being exposed from the standpoint of knowledge. They have not gained any real skills in participating, for example, in a general quarters drill. We do not expect to do that in that entry-level training

Mr. BIAGGI. Would the gentlelady yield?

Ms. MIKULSKI. Yes.

Mr. BIAGGI. We had an experience here, we have an individual on watch with no experience; would not it be a better method to have someone with experience alongside him, at least for some period, so he can really not only familiarize himself with the realities of the sea but also be instructed; because it is my view, and I have been an owner of a boat for many years, you learn the hard way by yourself. You manage to survive, but you only place yourself in peril. With instructions, you become quite adept. It seems to me the better way would be to have one on one for the green individual.

Admiral HAYES. Clearly, Mr. Chairman, there is no question about what the correct answer to that proposition is. Yes. A one-on-one teaching situation in any circumstance is the best.

Mr. BIAGGI. We are really talking about, then, lack of personnel?

Admiral HAYES. And the ability of a training vessel really to provide fully a one-on-one situation.

Mr. BIAGGI. All right.

Thank you.

Admiral HAYES. Could I just finish that up?

If you look at the *Eagle*, for example, ideally, I suppose it would be best to have one instructor, shall we say, for each person, each cadet going up in the rigging. That has never occurred, at any rate.

Mr. BIAGGI. I do not think that would be realistic.

Admiral HAYES. This is a constant problem that we are trying to cope with, obviously, of where should we be doing this and where not. The lookout, I have to say to you, it would seem appropriate to do it if you could; yes.

Ms. MIKULSKI. I would like to return to two issues; one is the situation on the *Cuyahoga* and the watch and, second, what are basic practices for learning?

No. 1, you had a young man who had no previous sea duty or training looking out—though a beautiful night, still confusing, because of exactly what you said, the nature of traffic on the bay and the proximity to the shorelines on the bay, which can be very confusing. He is seeing your supervisor, which I assume is the quartermaster of the watch—am I right in that—

Admiral HAYES. That would be correct. QM2 Rose as QM3 on Coast Guard cutter *Reliance* from February 1977 to October 1978 as SA/SN for 9½ months prior to rate.

Ms. MIKULSKI [continuing]. Who also had no previous sea duty. So you have got somebody up there with absolutely no training and his senior supervisor, to whom he is to report, also had no previous sea duty.

Now, I would hope that when we set up our training curriculums of the future, you have this under review, and that it is mandated under your training, that the person under supervision, while he is getting all this practical experience, is being trained by somebody who at least has practical experience. This is a shocking indictment, Admiral, that you had somebody up there with no experience being supervised by someone with no experience, by a captain who 8 days before had been previously reprimanded for poor ship-handling skills; who, 3 months before that, drove into a bridge in one of our inland waterways; and a month prior to that, hit a sea wall in the inland harbor. Now, that is the supervision and training that you had on the Chesapeake Bay.

Now, I am not a seaman, but I am a college teacher, and my field is education and I do know the methodology of teaching.

No. 1, you need a curriculum to teach the skills that you want; No. 2, the traditional methodology for teaching is intense classroom content and then No. 3, that if followed by supervised, practical experience. Those are the three steps in any educational system requiring a practical know-how situation.

Admiral HAYES. May I respond to that?

Ms. MIKULSKI. But what we find in the Coast Guard training manuals, No. 1, in boot camp, they are trained military in spit and polish, security; not line handling. They move into these lesson plans, and so on, and the point that I am making is, judging from the material furnished by Secretary Brock Adams, your people do not receive proper classroom training prior to their moving on to a sea-going situation; and then judging from the *Cuyahoga*, when they get to it, there is a question of the type of supervision that they have received.

All I am saying is, when you say it would be great if you had one on one, you do not need one on one. When you say that examinations do not work, you know, I have a problem with foreign languages; it has been a difficult—

Admiral HAYES. I share that problem with you.

Ms. MIKULSKI. I can understand that.

I made a lesson plan in German when I was at Mount Saint Agnes College, but I could not pass the darned exam, and I failed. Now, that was the only criteria that Dr. Sentall had to know if I knew German and, guess what, I did not know German.

Even as you test other Marine officers and merchant marine, you use exams, but, I must come back to the Coast Guard; it has got to practice what it wants of other people engaged in maritime activities. I really think it is a shame that the curriculum is not there; the classroom content is not there, a series of examinations and proficiency skills and then properly supervised practical experience. That is my assessment of what I read.

If you care to respond, or if I made a misconception, I welcome your comments.

Admiral HAYES. If I could just disagree a little bit.

I think the way you described that educational process fits precisely what we are doing. If there is a quarrel, it is with the content, as I gathered your comments a moment ago.

One of the tests of the efficacy of any process is the results. Our OCS graduates from the institution, of course, which was the base for this casualty, compete not only very favorably with our Coast Guard Academy graduates out in the service, but if anything, in the earlier years, by percentages, are finding fewer of their numbers passed over than our Coast Guard Academy graduates. I cannot explain to you why this is correct, or why this is true; but indeed it is.

The point I suppose I am making is that, even though this is only a little over a 4-month process, roughly a 4-month process of training, as compared to the academy 4-year curriculum, from a professional standpoint, the graduates of both institutions compete pretty favorably with each other and, if anything, the balance right now at the lower rank seems to be in favor of the OCS graduates, for whatever reason.

If one looks at the *Cuyahoga* specifically, I do not argue nor quarrel with the conclusion that there were things that were wrong and that should have been done better. I just would like to be careful, Ms. Mikulski, in drawing some of these conclusions, that the entire training program of the Coast Guard is castigated, is not working and, in accordance with accepted practice. I think that is taking this incident maybe a little bit too far.

Ms. MIKULSKI. Yes.

Well, but even here in the joint report by the Secretary of Transportation and the Commandant of the Coast Guard, very serious weaknesses are raised in relationship to the training program; and since it is already entered into the record, I will not enumerate them.

But one of them for example, comes back to the *Cuyahoga*. The men complained that they did not learn survival skills and evacuation skills until after their first cruise, Admiral. When I learned how to sail, the very first thing they did was teach me the life jacket and what to do in terms of man overboard, and the third thing was the rules of the road. That was before I even saw a vessel. I was taught that, and I had to know how to swim, and then we were taught how to get off the boat.

Do you see what I am saying?

Admiral HAYES. Once again, I do not, for a moment, suggest that we have not identified weaknesses and deficiencies. You have identified one which we have already corrected.

Ms. MIKULSKI. Well, there are several other questions, but I think—I really wanted to focus on the training and supervision of both the commanding officer, the medical standards, and then the seamen.

You mentioned several times in the course of the testimony that you are in the process of deciding what reforms could be taken, based on what we learn because of the *Cuyahoga* situation, both

the Safety Board, the National Safety Board, and the Marine Safety Board, your own evaluation by the Commandant.

Could you summarize the direction that you think you are going in and when you think you will decide on what you are going to do?

Admiral HAYES. I would be happy to, Ms. Mikulski.

Ms. MIKULSKI. I think that is really the point of it, and we all know that there is other litigation pending on this matter. We in no way want to cloud that or unduly influence it.

Admiral HAYES. We always learn from casualties, and this is no exception.

Let me quickly run through the things that we either have done or are now in process.

With respect to the *Eagle*, we have improved her watertight integrity throughout, with respect to watertight doors, any penetration of bulkheads and things of that nature. We have changed the curriculum approach with respect to precruise indoctrination to emphasize survival training. We have renovated a certain aspect of the engineering plan, which is not important except it does speak to one of the problems raised in the report and a damage-control manual is now under development for the ship.

With respect to the *Reliance*, we have improved her engineering capability, extended her shipyard capability to do some of the things recommended; and we have already increased her crew size to conform to crew size of all other 210 footers.

At Yorktown, generally the curriculum there has been revised for survival training and I would expect the same thing would be true at our major recruit training locations as well. We are beginning to engage in rules of the road training for the officer candidates prior to their departure upon vessel trips.

In general, instructor billets have now been given among the highest priorities in the selection process.

Ms. MIKULSKI. What is an instructor billet?

Admiral HAYES. Well, this would be in your background, the educator, teacher.

Mr. BIAGGI. Admiral, you make reference to increasing the personnel on the *reliance* and the assessment report. You stated that the *Reliance* is not a completely adequate training platform. Is that a fact? Because there—

Admiral HAYES. Let me explain the problem, Mr. Biaggi, that may not have been brought out in the study.

The *Reliance*, for the most part, has been a Reserve training vessel, not an officer candidate training vessel, and by that I mean not an entry-level training vessel, and therefore, the best training we could give our reserve people is taking them right out into the operating department of the Coast Guard. So for the most part, the *Reliance* has been an operational vessel training Reserve personnel and to the extent that there was scheduled time available, just an exposure, and that is all I would call it, just a training exposure was provided on board the *Reliance*. Occasionally, I think those did occur in that same operating environment. To the extent that that happened, that may perhaps be a valid criticism.

Mr. BIAGGI. With the *Cuyahoga* going out of existence, would the *Reliance* be an adequate vessel for the stated purpose?

Admiral HAYES. The problem here is one that I have to make a tough decision on

On the one hand, I have informed the committee that I do not have full, adequate resources with respect to the ships of the Coast Guard and that is every vessel in the Coast Guard.

On the other hand, we have a training demand and the two have to be balanced, and it is difficult to say which of those two have a higher priority; that is the kind of problem I experienced in responding to the question that you asked.

Finally, we are going to increase our emphasis on prior successful command for commanding officers which speaks a little bit to the point that you made, Ms. Mikulski. Now, I have a lot more detail.

I do not know to what extent the committee wishes me to go into that at this time.

Ms. MIKULSKI. I would like you, No. 1, to submit it for the record, and I would like to have a copy to review.

Admiral HAYES. We will be happy to do that.

[The material was not received at time of printing.]

Ms. MIKULSKI. When do you anticipate that you will complete your review of this situation and come to a final determination on corrective steps?

Admiral HAYES. I have two separate things going at the same time, Ms. Mikulski.

One is our response to the Secretary's and my study, assessment of entry level training. We are not waiting for the results of the Board to come out, to proceed on that, as I have already indicated, so that is going on apace and I would imagine that within the next 30 days, we will have a fairly accurate indication of resource requirements and so on, to fully implement the recommendations of that study.

I am estimating about 2 months to fully review the Board's—the Marine Board of Investigation's report to me; that, incidentally, is a lot less time than it normally takes in this circumstance, but we would like to up the priority as well. I am hopeful that, within 60 days, I should have my review of that complete. I intend not—to harken back to one of the chairman's questions—I intend not to wait for that. That will occur before that.

Ms. MIKULSKI. First of all, I am heartened and encouraged, Admiral, by the way the Coast Guard has approached this situation. I think you have looked at it from square one and taken a very honest and open approach.

As I read both the Marine Board of Inquiry, as well as your own report, done in cooperation with Secretary Adams, the willingness to face the situation as it is in terms of strengths and weaknesses in the training program, I think speaks of both the honor and tradition of the Coast Guard itself and I was encouraged at the way the problem was approached.

Second, I feel that the recommendations that you have just outlined are what I was hoping to hear, one, in terms of attitude, really, what can we do to correct the situation and, No. 2, the specificity of the recommendations.

Mr. Chairman, I am encouraged at the Coast Guard's reaction and the steps that they are taking to really learn from the tragedy of the *Cuyahoga*.

What I would like to suggest is either myself, acting on behalf of the committee, or the committee itself, meet again perhaps not in a formal hearing way, but with the Commandant to see, No. 1, what final decisions you make, and how; what are the procedures being developed to meet your own recommendations?

Admiral HAYES. When we are ready to do so, we will arrange a briefing for the members of the committee who would be interested and we will apprise everyone at that time what our final conclusions are and what actions are being taken.

Ms. MIKULSKI. Do you think 90 days, or would you like some—little bit longer?

Admiral HAYES. Well, I would see no reason that it would have to go much beyond that, Ms. Mikulski. I think I will have made all my decisions well before then, but certainly no later than that.

Ms. MIKULSKI. Why, let us just say that in 90 days, that briefing will be arranged?

Admiral HAYES. I will be happy to.

Mr. BIAGGI. At least, we will meet. We have ongoing discussions anyway, Barbara.

Ms. MIKULSKI. Not to intervene with the schedule hearings that you have, but I would see that as a briefing, an informal briefing, if it suits your pleasure.

Mr. BIAGGI. Admiral, we have a vessel bridge-to-bridge, radio-telephone, so we know the purpose of it, and yet we have a perfect illustration where, if the act, or if the radiotelephone was utilized, the tragedy might have been averted. I think the law states now it is to be used when necessary. It is a question of judgment. hindsight always gives you good vision, but, trying to be as kind as possible in assessing judgment, it would appear to me that this would have been a perfect illustration of when it could have been used. I am concerned about whether or not the material, when necessary, is adequate.

Does that require a change of regulations, changing of legislation? Does the Coast Guard plan to address itself to that so that it perhaps can make some recommendations, so that this valuable tool could be utilized rather than just installed?

Admiral HAYES. I would agree entirely with the chairman's observation that bridge-to-bridge radio communication, had it been used, could certainly have remedied that situation. It would have created, hopefully, the understanding that obviously did not exist. I am not prepared yet, obviously, Mr. Chairman, not having reviewed those specific recommendations, to recommend action to the committee at this point.

Again, though, as I view the situation, we have the full authority to act to make whatever modifications or changes that might be required if we indeed think that is the case. So I do not—again, I do not think I see a need nor any legislative remedy at this time.

I think that out of this, if it appears that a more mandatory approach should be taken, we could do so.

One of the problems I would point out to the committee, however, in that regard, just thinking about it, in our various areas

where we have instituted vessel traffic services; for example, where there is a high volume, high level of training, you have to be very careful. The extent to which we clutter up the airwaves with routine communications. So once again this is going to be a judgment, in a sense of a balanced question as to what—considering all factors—is going to be in the best interests of safety. Of course, that is what we are talking about.

Mr. BIAGGI. In this instance, it was after 9 o'clock in the evening, a clear night. I am not so sure that there was too much traffic in the area.

Admiral HAYES. I would agree, Mr. Biaggi. I think that was a perfect example of where just a quick hello, I am down bound, and what are your intentions, would have resolved the issue.

Mr. BIAGGI. You will assess that situation, I take it?

Admiral HAYES. I most certainly will.

Mr. BIAGGI. With respect to the use of the radio telephone, there is a custom on the Great Lakes which involves the use of security calls prior to important evolutions, such as major course changes and when entering and leaving restricted waterways.

Is there such a system of security calling on the east coast and, if so, how extensive is it?

Admiral HAYES. I think not as a general practice. A similar situation occurs in the inland rivers, only they do it in a slightly different fashion, indicating where large towboat fleets are approaching a major bend in the river, for example, and that information is exchanged back and forth between pilots.

To my knowledge, the use of the security message is not one of general practice around the east coast.

Mr. BIAGGI. Do you think a voluntary system should be worked out or a mandatory system should be imposed on all internal waters?

Admiral HAYES. I suppose I would probably lean more toward the increased use of the bridge-to-bridge communication as a more urgent requirement.

One of the problems with communications at sea, and particularly when I say "at sea," in coastal waters that are crowded, is trying to separate out who is talking and where they are located when they are advertising what they are about to do. It can on occasion increase the confusion rather than remedy it.

The reason I am commenting in this regard is that I have found, in reviewing so many of these regulations, that on the surface, a good idea, sometimes after a little more—deeper review, you find that if you do something here, you then cause a new problem in a different direction.

Mr. BIAGGI. I follow that

Admiral HAYES. Certainly the idea is a good one, Mr. Chairman, and we most certainly will look at it.

Mr. BIAGGI. Well, it is well intended; but I also see the potential for danger. I see that it is a question of your professional assessment that I am concerned about.

We have been talking about training and the different aspects of the *Cuyahoga* incident.

Let us go off in another direction for one final question, as far as I am concerned.

What about the survivors of the Coast Guard?

What has the Coast Guard done about them, family, parents?

Admiral HAYES. Let me just run through—

Mr. BIAGGI. I mean from the time of the occurrence to the present?

Admiral HAYES. Actually, if any good comes out of anything, Mr. Chairman, I am rather proud of the way in which our people handled that aspect of things.

At the time of the casualty, the Coast Guard in general, and Yorktown specifically, immediately made a whole variety of moves to help the survivors and next of kin. We called up a Navy sprint team, which is a very, very interesting concept.

Have you heard about that, Ms. Mikulski?

Ms. MIKULSKI. Yes.

Excuse me, Admiral.

I did hear about it and it is really a very interesting approach.

I think you should amplify that for the chairman.

Admiral HAYES. That arose out of a very tragic collision which occurred within the U.S. Navy. You may recall a cruiser had virtually its entire topside wiped clean by a carrier deck in a collision.

Within a few years after that occurred, the Navy found that hardly a single person who had been on that crew reenlisted to stay in the Navy and there was a tremendous traumatic aftermath to the casualties. So they did a lot of agonizing over it, naturally, as we are with *Cuyahoga*, and they came up with the idea of what they entitled a SPRINT team.

What it basically is is a crisis counseling group consisting of doctors and people who have been trained in crisis counseling and this group goes to the scene of a casualty and immediately enters into interactions with next of kin, with the crew members who survived, just as important, really, and with the people at the command that may be associated. So of course part of that team obviously is a chaplain. They were just of tremendous value.

We notified the next of kin promptly. I attended, with the Navy Chief of Chaplains, a memorial service at Yorktown to honor those who had lost their lives; we established a hotline at Yorktown manned by a chief warrant officer to help all concerned; we insured that the district itself gave immediate support in connection with survivors' benefits and that sort of thing; we set up a special task force to handle that and assured that the usual monetary benefits did go to the next of kin.

With respect to the survivors, a number of details occurred. I do not know how much you want to go into that kind of thing; but certain of the personnel who had been involved requested that they not be assigned to sea or requested that they be assigned to sea immediately again, and those actions occurred. So I was—as I said, I was rather proud in the way the Coast Guard responded to that casualty and, incidentally, the other services were magnificent in supporting us.

Mr. BIAGGI. Well, it was a tragic event, and one that I am sure will stay in the history of the Coast Guard but, more importantly, I hope that this and all of the other reports of hearings will have a beneficial consequence with relation to training and the collateral

issues that were raised. The challenge is to you and your service and the responsibility is equally yours to respond fully and with enthusiasm on a sustained basis. I am not satisfied that the conditions were the optimum training, mixed personnel, concentration on training to the apparent neglect of navigation, the absence of, I believe, an essential redundancy, at least in certain areas, recognizing that one is not feasible in light of all circumstances, but if one is to be pleased—what pleased me is the Coast Guard's commitment to an honest analysis, not the usual traditional behavior of uniformed military agencies that take the defensive posture of trying to obscure or hide or alter the facts. For that, you are to be commended, highly commended.

My experience in life has been that that is one of our great difficulties in dealing honestly and objectively with the problems of today, whatever those problems may be. Failure to recognize the problem honestly hampers one in trying to obtain solutions.

I am delighted that Ms. Mikulski, who is here today, and contributed as much as she has—also, I would like to commend Ms. Mikulski for her immediate response and deep concern and compassionate interest, compassionate and continued interest.

On behalf of this committee, I would like to thank you for your presence and your testimony today.

Mr. BIAGGI. Mr. Elwood T. Driver, Vice Chairman of the National Transportation Safety Board.

Before the Honorable Elwood T. Driver testifies, I want to compliment the National Transportation Safety Board for its efforts in conducting its independent investigation and for providing all of us with an expedited and well-considered report.

I also want to note that one of the Board members has filed a concurring and dissenting opinion with respect to the navigational situation between the two vessels. He does not agree that the two vessels were meeting in a head-to-head situation. I would be doing the public a disservice if I failed to provide them with some comment based on the expertise of the subcommittee.

I feel that, based on the facts of this collision, we must agree with the majority Board members in concluding that the navigational situation between the two vessels was never anything other than a head-to-head meeting situation. The turn by the *Cuyahoga* less than 4 minutes before the collision did not convert it into a crossing situation under the rules of the road.

I now welcome the Honorable Elwood T. Driver.

STATEMENT OF HON. ELWOOD T. DRIVER, VICE CHAIRMAN OF THE NATIONAL TRANSPORTATION SAFETY BOARD, ACCOMPANIED BY LUIGI COLUCCIELLO, CHIEF, MARINE ACCIDENT DIVISION; AND RALPH JOHNSON, MARINE ACCIDENT INVESTIGATOR

Mr. DRIVER. Thank you, Mr. Chairman.

Mr. Chairman and members of the subcommittee, I am Elwood T. Driver, Vice Chairman of the National Transportation Safety Board.

On my immediate right is Mr. Luigi Colucciello, who is chief of the marine accident division and on my left is Mr. Ralph Johnson, marine accident investigator.

We certainly appreciate this opportunity to discuss with the committee the collision of the Argentine freighter M/V *Santa Cruz II* and the U.S. Coast Guard cutter *Cuyahoga* in the Chesapeake Bay at the mouth of the Potomac River, Md., on October 20, 1978.

At this time, I would also like to express on behalf of the National Transportation Safety Board, and specifically that of our chairman, James King, our sincere regrets over the tragedies involved in the *Cuyahoga* and I would also like to take this opportunity to reaffirm the objectives and goals of the Board, which are to prevent occurrences within all transportation modes which lead to death, injury and damages.

We do this through accident investigations and development and recommendations for remedial, corrective and preventive actions.

I will now present a short factual summary of the analysis, the findings, conclusions and recommendations arrived at by the Board during its investigation of this accident.

I would also like to extend our tribute to the Coast Guard for the manner in which the joint investigation was conducted in this particular accident.

As you know, Mr. Chairman, at 2107 eastern daylight time on Oct. 20, 1978, the *Santa Cruz* and the *Cuyahoga* collided. As a result of the collision, the *Cuyahoga* sank, 11 Coast Guardsmen were killed; 18 Coast Guardsmen were rescued by the *Santa Cruz II* which experienced minor damage. This accident was investigated jointly by the National Transportation Safety Board and the U.S. Coast Guard in accordance with section 304(a)(i)(e) of the Independent Safety Board Act of 1974.

Safety Board representatives participated fully in every phase of the investigation including the on-scene investigation several hours after the accident and the U.S. Coast Guard Marine Board of Investigation which was convened in Baltimore, Md., on October 24, 1978. In addition, the Safety Board held a deposition hearing on February 9, 1979, to enter into evidence a report concerning the visibility from the bridge of the *Santa Cruz II*.

On February 26, 1978, the Safety Board adopted the attached report on this accident. Member McAdams dissented from the majority decision, and his dissent is attached to the Board's Accident Report. The Safety Board determined that the probable cause was the left turn executed by the *Cuyahoga*, while in proximity to the *Santa Cruz II*, contrary to the rules of the road as the vessels were meeting head and head, the failure of the commanding officer of the *Cuyahoga* to determine the relative motion, course, speed, or closest point of approach of the *Santa Cruz II*, and the failure of the *Cuyahoga* to initiate bridge-to-bridge communications by radio-telephone to exchange navigational information. Contributing to the loss of life was the lack of emergency lighting aboard the *Cuyahoga*.

The Safety Board made 14 recommendations to the U.S. Coast Guard. Two recommendations deal with the use of the bridge-to-bridge radiotelephone; four deal with the manning, experience level, and training level of the crews on Coast Guard cutters and, in particular, Coast Guard training vessels; two concern the location and use of radar on Coast Guard cutters; two address the lack of medical standards for Coast Guard watchstanders; three deal

with improving the survival equipment on Coast Guard cutters; and one recommendation states that the inland rules of the road should be modified to agree with the international rules for crossing situations. The Safety Board made a recommendation to the Association of Maryland Pilots to insure that pilots comply with section 33 CFR 80.3(a) of the Pilot Rules for Inland Waters which states that whistle signals shall be given when vessels meet or pass at a distance of less than half a mile.

The U.S. Coast Guard regulations concerning the use of radiotelephone are not clear as to when vessels should exchange bridge-to-bridge navigation information when passing, crossing, or meeting. There is a need for the Coast Guard to determine the minimum distance at which navigational information should be transmitted and to promulgate regulations accordingly.

The VHF radiotelephone installed on the *Cuyahoga* was not capable of constantly monitoring channel 13 as required by the Vessel Bridge-to-Bridge Radiotelephone Act.

Mr. BIAGGI. What do you mean? The equipment was not adequate, operative, or what?

Mr. DRIVER. When you are transmitting on another channel, you cannot monitor channel 13. When you hang up the receiver, then it switches to channel 13 automatically.

In other words, if the *Cuyahoga* had been broadcasting on some other channel, the *Cuyahoga's* radio could not receive navigational information from other vessels on channel 13. I think that partly answers your question, sir.

The enlisted crew of the *Cuyahoga*, who were assigned to bridge watches, were suitably qualified for assignment to a vessel of this size. However, the experience and training level was less than adequate to provide safe operations of a training vessel operating in the congested waters of the Chesapeake Bay. For example, the lookout was of the proper rating, but he had only 3½ months of service in the Coast Guard, had been aboard less than 2 days, and was standing his first lookout watch.

The commanding officer and 12 crewmen, including 3 reservists assigned to active duty for training, of the *Cuyahoga* were overtaxed with the requirement to provide training to 16 officer candidates in addition to conducting normal vessel operations. There were no personnel assigned to the *Cuyahoga* for the sole purpose of conducting officer candidate training. The personnel assigned to the *Cuyahoga* were not adequate to allow a three-watch system which limits crew members to 8 hours of duty in any 24 hour period. A 3 watch system would require at least 18 crewmembers in addition to nonwatchstanders, such as cooks. The *Cuyahoga* had a total of 13 crewmembers. Furthermore, the Coast Guard does not have any uniform servicewide standards to guide commanding officers in determining personnel qualifications for assignment to such duties as officer of the deck, helmsman, and lookout.

The radar on the *Cuyahoga* was located in a space other than the wheelhouse where there was a possibility of the loss of night vision. I do have a diagram of that, if you would like to see it sometime, Mr. Chairman.

Mr. BIAGGI. I think we have it.

Mr. DRIVER. Because of its position and the possibility of losing night vision, the commanding officer of the *Cuyahoga* made minimal use of this important navigational instrument.

The commanding officer failed to determine the relative motion, course, speed, or closest point of approach of the *Santa Cruz II* prior to collision. There is a need to establish a policy concerning the use of radar equipment on Coast Guard cutters for plotting navigational data.

Mr. BIAGGI. What policy does the Coast Guard now have?

Mr. DRIVER. As I understand it, there is no policy regarding the use of Coast Guard equipment for plotting navigational data. There was none that came out during the hearing, when we asked for response on that question.

The Coast Guard does not provide the commanding officers of the Coast Guard cutters with sufficient guidance on what effect medications may have on the ability of watchstanders to perform their duties. The commanding officer cannot be expected to know the effects medication can have on himself or his crew. Standards should be set for the taking of medication by watchstanding officers who have visual impairments to wear corrective lenses when on watch.

The only automatic emergency lighting provided on the *Cuyahoga* was in the cutter's engine room. When the collision occurred, the *Cuyahoga's* mess and berthing areas were in complete darkness, making escape from these areas difficult. Coast Guard standards for new cutters require automatic emergency lighting in all manned spaces.

Mr. Chairman, I did go down to Portsmouth to personally take a look at the *Cuyahoga*, and also to affirm, or confirm the statement about the inside of the vessel in terms of size, escape ports, and so forth, and it is rather difficult to get out of a vessel in the darkness, particularly with the means of egress being overhead and accessible through rather high angle ladders.

Mr. BIAGGI. My experience is that even in the best conditions it is.

Mr. DRIVER. That is quite true, sir. I even have trouble in my own boat.

Existing Coast Guard cutters should be examined, and emergency lighting provided on all cutters.

The International Rules of Preventing Collisions at Sea, 1972, permits the standon vessel—that is, for the privileged vehicle, which on the roadways we say is that which has the right-of-way—in a crossing situation to take action to avoid collision as soon as it becomes apparent that the vessel required to keep out of the way is not taking appropriate action.

The Pilot Rules for Inland Waters require the standon vessel to hold course and speed in a crossing situation until immediate danger of collision exists.

Mr. BIAGGI. Let me review that with practical application. Two vessels, international rules, spell it out.

Mr. DRIVER. International rules, with the standon vessel, the vessel which feels that it has the right-of-way, senses that something is wrong, and that the collision is going to occur, that vessel,

under international rules, has the prerogative to take action—to avoid a collision.

Mr. BIAGGI. It sounds like commonsense.

Mr. DRIVER. Yes, sir.

Mr. BIAGGI. You may be right, but dead, if you do.

Mr. DRIVER. Sometimes you are quite right, and dead. Contrasting on the inland rules, the standon vessel, or the vehicle which thinks it has the right-of-way, has no obligation except to continue course and speed until immediate danger. We say that the inland rules and the Pilot Rules for Inland Waters should be amended to conform with the international rules. This would avoid confusion between the inland and international rules and permit the stand-on vessel to take corrective action before immediate danger of collision exists.

I have touched briefly on the Safety Board's report and related recommendations to the U.S. Coast Guard and the Association of Maryland Pilots. Mr. Chairman, I am pleased to have had the opportunity to appear before you today and will be glad to answer any questions you may have.

Mr. BIAGGI. Thank you, Mr. Driver. I understand you think adoption of this proposed rule change may possibly cause some problems?

Mr. DRIVER. As the Admiral indicated, it is a close question here. I admit there are arguments pro and con for either, but on balance, particularly on balance of safety, it appears that the Board's recommendation is the one that is best to avoid future accidents of this type.

Mr. BIAGGI. What is the negative aspects?

Mr. DRIVER. There is one negative aspect, sir. Just before the collision both vessels could start maneuvering to avoid a collision, and it could be counterproductive. There is that possibility. It is like a Volkswagen and a truck meeting in an intersection, and instead of the truck continuing ahead, the truck stops, and the Volkswagen tries to go by him and smashes into him. Whereas if the truck continued ahead, the Volkswagen might have slowed down. Both taking evasive action in a limited area of space could compound a hazardous situation.

Mr. BIAGGI. Had they used the radiophone?

Mr. DRIVER. It would have helped out quite a bit. They would have broadcast to each other their intentions, and it would minimize the possibility of confusion.

Mr. BIAGGI. I am told that there is some consideration of the Coast Guard to request legislation for changing the rules of the road?

Mr. DRIVER. Mr. Chairman, we do not know the status of that particular proposal. I understand that the Coast Guard is proposing to revise those rules, but we do not know the status.

Mr. BIAGGI. Thank you for a very concise analytical and cutting, but properly so, assessment. I am sure the Coast Guard read your statement, and read your reports, and I am confident that they will respond in proper fashion, that they continue their candor, a candor which has been consistent with most of their presentations.

Many of the things that you have stated we have questioned the Coast Guard about, and I know you were here. I do not know that

any areas that we did not state, except perhaps the international rules. You elaborated on that perhaps a little bit more than has been dealt with in the hearing, and the lighting situation on the *Cuyahoga*. You touched very forcefully on the training and the lack of experience, and that was dealt with rather extensively in the question period which preceded your testimony.

I was so sorely tempted to characterize your colloquy with the Admiral as the blind leading the blind.

Ms. MIKULSKI. Because we both wear glasses?

Mr. BIAGGI. No.

Ms. MIKULSKI. I wear mine when I am out.

Mr. BIAGGI. I was not referring to you. I was referring to the man on watch, who had very little experience, and the supervisor of the man who may have had as much experience, if not less. A totally unacceptable situation.

I note that the National Transportation Safety Board has recommended that the Association of Maryland Pilots should take a number of remedial actions.

During the last Congress, when I held extensive marine safety oversight hearings, and tanker safety legislation hearings, there was considerable discussion as to the relationship between those State authorities which exercise supervision and disciplinary control over State pilots, and the pilot associations that actually do the piloting.

Therefore, I am somewhat concerned as to why the National Transportation Safety Board has not forwarded its recommendations to the appropriate State of Maryland authority, that is, the Board of Examiners of Maryland Pilots, which exercises control, discipline, and supervision over the Association of Maryland Pilots?

Mr. DRIVER. Yes, Mr. Chairman, the Board made the recommendation to the Association of Maryland Pilots first, because their organization would be able to implement the recommendation immediately. We wanted to get something done.

However, we will initiate action to forward this recommendation also to the Maryland Board of Examiners as followup to assure that recommendation is acted upon.

Mr. BIAGGI. I would also note that the Board fails to discuss the requirement for the blowing of a danger signal of not less than four short blasts when the navigational situation becomes confused, nor does it come to any conclusion concerning the use of a danger signal.

Admiral Wood alluded to this in his testimony. It would appear that when the *Cuyahoga* changed course, across the *Santa Cruz's* trackline that the blowing of a danger signal might also have alerted the *Cuyahoga's* crew to the presence of a downbound freighter in sufficient time to take remedial action. It might have also alerted some of the below deck crew to come on deck, thereby possibly reducing the loss of life.

Do you have any comments?

Mr. DRIVER. Yes, sir. It is quite evident that the Board believes that the sounding of a danger signal earlier in the accident situation would probably have precluded the accident, if only in terms of alerting the crew of the *Cuyahoga*, that something was wrong. In fact, any type of signal early on in the accident situation, to in-

clude use of the radiotelephone, would have done a lot to probably prevent this occurrence.

Mr. BIAGGI. Why do you believe that neither skipper used the danger signal? It does not make sense.

Mr. DRIVER. Reading from the testimony, it appears as if the pilot of the *Santa Cruz*, rightly or wrongly, believed he was in a crossing situation, and to him the proper signal at that time was a one-blast signal. He interpreted that was required instead of a danger signal, and, according to the inland rules of the road, he was obliged to continue straight ahead, and to him the *Cuyahoga* should have maintained position such as to remain off his portside.

We understand that the *Cuyahoga* Captain did not understand that.

Mr. BIAGGI. Assuming he was correct in his assessment, I am not saying that he is, but assuming that he was, and his eyesight was pretty good, was it not?

Mr. DRIVER. The pilot—

Mr. BIAGGI. Of the *Santa Cruz*.

Mr. DRIVER. Yes, sir.

Mr. BIAGGI. He would have to see that the danger was looming on the scene?

Mr. DRIVER. Yes, sir, but we are now back to the inland rules. He regarded his legal obligation to maintain course and speed.

Mr. BIAGGI. He was right. If you take that attitude you may be right and dead.

Ms. Mikulski?

Ms. MIKULSKI. Thank you, Mr. Chairman.

First of all, Mr. Driver, I would like to compliment you and Mr. King upon your prompt and thorough investigation of this matter.

In addition to both the Coast Guard's Board of Inquiry and the Coast Guard's Marine Inquiry, your report furnished a very reliable document for us to pursue what had happened, and what were some of the deficiencies.

I would like to pick up on one question, which the chairman was raising. Both skippers seemed to have certain questions, as they saw each other, they spied each for the first time. Then as they were getting closer, something—did any them indicate to you why one of them did not pick up the radiophone and say, what is going on, what are you going to do? Because they were on the Bay, they saw each other coming at a certain point, and yet neither skipper took that initiative to establish voice-to-voice contact.

Mr. DRIVER. Yes, ma'am. It is quite evident that they did see each other for quite a distance. In fact, it was about 20 minutes that they saw each other. However, let us assume the position of the captain of the *Santa Cruz*, he is traveling southbound, visibility is good, he sees another vessel approaching, and according to his interpretation of the lights on that vessel, the vessel is approaching in such a manner that it is going to pass to his port, which is a normal passing procedure, that is the position of the captain of the *Santa Cruz*.

Let us assume the position of the captain of the *Cuyahoga*. He looks at this vessel, and wrongly so, judging from the position of the lights, the red light, and the white lights, he assumes the vessel

was going away from him, and therefore, was on a parallel course, the other vessel was going parallel and away from him also.

Ms. MIKULSKI. I am trying to imagine what that must have looked like.

Mr. DRIVER. It is conceivable to see how he was confused. You indicated that you are also a person of the sea.

Ms. MIKULSKI. Weekends.

Mr. BIAGGI. She is the admiral of the *Sunfish*.

Mr. DRIVER. When you see a red light on a vessel, and a white light, unless you do see both lights, you could interpret it as a small ship going away from you. That is the masthead light and a port side light.

Now, what the captain of the *Cuyahoga* missed in this case, was the two masthead lights, one lower than the other, which would have indicated the direction of travel of that vessel, not only that, but it would have indicated that this was not a little vessel, but a big vessel.

Now, given that, the set of mind which the admiral alluded to, was set. He said that vessel is going away from his path. One of the strong criticisms by the Board was why did not the captain utilize the radar, and know for sure that because the position changed on a radar plot this vessel was not on a parallel course.

Plus, he would have found out that the rate of closure was about 25 miles an hour. Unless his vessel is capable of doing about 40 knots, he never would have caught him. There is no way that there could have been that direction of travel.

Ms. MIKULSKI. So, Mr. Driver, what you are saying is that the captain of the *Santa Cruz* thought it was a crossing situation, and until the immediate danger presented itself, because my original question was the radio, he did not see a necessity, and assumed that everyone knew what they were doing in a passing situation. The rules are rather straight forward in a passing situation.

Mr. DRIVER. Yes.

Ms. MIKULSKI. And yet, because the captain of the *Cuyahoga* totally misread the situation, and was operating on a series of false assumptions, he saw no need to establish the voice-to-voice contact until it was almost too late.

Mr. DRIVER. You are quite correct. I think you noticed that the Board cites the captain of the *Cuyahoga* for not using the radiotelephone, and he is so cited because he made the course change, and we feel he should have initiated some type of communication with the other vessel, to indicate and broadcast his intended change of direction.

Ms. MIKULSKI. Mr. Driver, the Safety Board has made 14 recommendations to the U.S. Coast Guard in the areas of both equipment, vessel safety equipment, lifejacket acceptability, and so on. Have you had any response from them?

Mr. DRIVER. I do not think time has been sufficient to evoke a response from our recommendations. We just completed our review by the Board on February 26, I think it was, the safety recommendations were forwarded on March 2. They have 90 days to respond thereto.

Ms. MIKULSKI. Mr. Driver, what is the normal process when the Safety Board is involved in an issue like this? This is my first

experience. What steps do you then take, either by law or administration, to follow up in terms of the implementation of your recommendations? Do you have a statutory authority, jawboning authority?

Mr. DRIVER. I have heard it expressed that the Safety Board regulates by raised eyebrows. We actually have no—shall I say, big stick to make the respective agencies follow through on our recommendations.

What the Board does do, following an accident investigation, is to prepare recommendations which should prevent occurrence of that accident, as we see it. These recommendations are forwarded to the appropriate agency, whether it be State, local, or even the private agency, and in the case of the agencies, they are given 90 days to respond to our recommendations.

Now, that is by statute. But the statute only requires a timely response, not to do as we say one way or the other. It is, of course, arguable whether that is the best way or not.

Following the receipt of response to our recommendations, we take action, either to close it as acceptable, to close it as unacceptable, or leave it open as unacceptable, but in any event, the Board does follow through. It is either assured, No. 1, that the recommendation has been complied with, or No. 2, there is no use pursuing it any further, that they are not going to do what we asked them to do.

Ms. MIKULSKI. I see. We have your set of recommendations and I think it is the intent of the committee to monitor this, and I think the Coast Guard Commandant has indicated a willingness to comply.

Coming back to the Association of Maryland Pilots, you suggested they should take a number of remedial actions. Have you heard from them in terms of what they intend to do?

Mr. DRIVER. The same leadtime criteria applies here. The recommendation was issued to those people on March 2, and there has not been sufficient time to invoke a response yet.

Mr. BIAGGI. That would be interesting.

Ms. MIKULSKI. Have you heard from them informally as to the reaction of your recommendation?

Mr. DRIVER. We have not.

Ms. MIKULSKI. Mr. Driver, the committee and myself would be very much interested in the responses that you have received, regardless of whether they are positive or affirmative, as to whether they intend to take remedial actions, as well.

Mr. DRIVER. We shall insure that you receive a copy of those responses.

[However, responses from the Coast Guard are not due until June. Therefore, the NTSB will not be able to furnish the information until July.]

[Material not received at time of printing.]

Ms. MIKULSKI. Thank you, Mr. Chairman. I have no further questions.

I think now we need to wait and see who is going to do what to correct this situation.

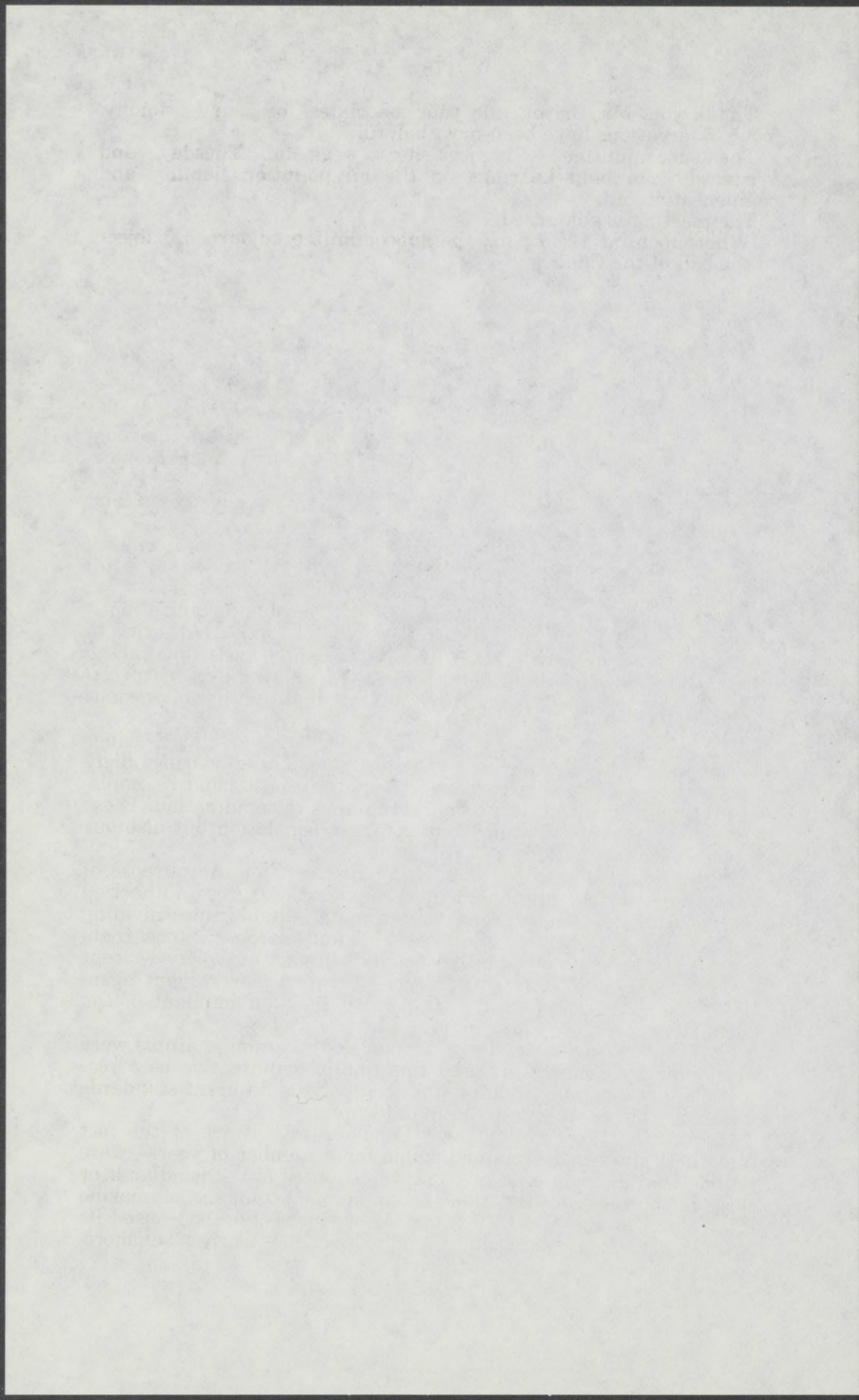
Mr. BIAGGI. All right, thank you.

Thank you, Mr. Driver, and your associates, for your testimony. Your observations have been most helpful.

The subcommittee will meet next week, on Tuesday, and Wednesday, to hold hearings on the oil pollution liability and compensation bill.

The meeting is adjourned.

[Whereupon, at 12:45 p.m., the subcommittee adjourned, subject to the call of the Chair.]



LINES OF DEMARCATION

TUESDAY, JUNE 5, 1979

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:15 a.m., in room 1334, Longworth House Office Building, Hon. Mario Biaggi (chairman of the subcommittee) presiding.

Present: Representatives Biaggi, de la Garza, Breaux, Treen, and Snyder.

Staff present: Ricardo A. Ratti, counsel; Rudy Cassani, counsel; Cyndy Wilkinson, subcommittee clerk/research assistant; Kai Midboe, minority counsel; and John Bruce, minority counsel.

Mr. BIAGGI. The Subcommittee on Coast Guard and Navigation is meeting today to consider legislation to clarify the authority to establish lines of demarcation dividing the high seas and inland waters for the purpose of determining the applicability of special navigational rules of the road and the applicability of various marine safety statutes.

During the last Congress, we held extensive oversight hearings on the Coast Guard's marine safety program. These hearings highlighted certain problems arising out of the Coast Guard's implementation of its authority to define the lines of demarcation. These problems concerned not only our domestic legislation but also our international obligations.

Legislation establishing lines of demarcation for the purpose of navigational safety originated in 1895—when Congress authorized the Secretary of the Treasury to designate suitable lines dividing the high seas from the inland waters and harbors. Since then, there have been no substantive changes in this authority—except for those due to transfer of functions between Government agencies. This authority presently rests with the Commandant of the Coast Guard.

When later marine safety inspection and manning statutes were considered by Congress, it used this line of demarcation as a reasonable jurisdictional dividing line for applying different standards to vessels that operate only in inland waters.

In enacting these safety laws, Congress was aware of the fact that these lines had remained stable for a number of years—were well-defined and well-known—and were located at the headlands or close offshore. Following the enactment of a number of marine safety laws in the mid-1930's, the Coast Guard—in 1953—used its authority to locate some of the dividing lines further offshore.

In 1977, the Coast Guard issued regulations which relocated existing lines of demarcation, whenever necessary, as far shoreward as practicable to be consistent with our treaty obligations under the International Regulations for Preventing Collisions at Sea, 1972.

This corrected a long-standing problem of applying local navigational rules to vessels operating well out into the high seas. However, it did not correct the problem of compliance with the various domestic vessel inspection and manning statutes, by vessels on the high seas, since the Coast Guard, without statutory authority, established a second line of demarcation for the applicability of these statutes.

Our study of this problem convinced us—and the Coast Guard agreed—that legislation was desirable.

This bill provides clear authority for drawing separate lines of demarcation for separate purposes. It provides that the lines drawn for the purpose of navigational safety and the international rules for preventing collision at sea may not extend beyond the 3-mile territorial waters of the United States. Those drawn to define the applicability of the various vessel inspection and manning statutes may not be located more than 12 miles seaward.

Since introduction of this bill, I have been informed that a problem exists with the applicability of the Seagoing Barge Act and that we will receive testimony from concerned interests on that problem. If their recommendations are consistent with the need for maritime safety, I am sure the subcommittee can make some reasonable accommodations.

We will now hear testimony from the Coast Guard—whose job it will be to implement the authority in this bill.

Before we hear from the Coast Guard, I will ask unanimous consent to place in the record of this hearing a letter from the American Waterways Operators, Inc., dated June 4, 1979.

[The letter referred to follows:]

THE AMERICAN WATERWAYS OPERATORS, INC.,
Arlington, Va., June 4, 1979.

HON. MARIO BIAGGI,
*Chairman, Subcommittee on Coast Guard and Navigation,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: H.R. 1198, if enacted into law, could possibly create serious navigational problems in the Mississippi Sound area of the Gulf Coast of the U.S. The three-mile limitation, if used, would create pockets of international waters within Mississippi Sound and Chandeleur Sound. Mariners traversing these waters would be in a continuous state of confusion as they passed into and out of the international waters. In addition, licensing requirement of towing and other small vessels would change from inland licenses to ocean licenses accordingly.

The Coast Guard recognized this anomaly when they redrew the COLREGS lines in 1977. The line was set along the outer shore of the offshore islands to prevent a chaotic set of circumstances.

The Congress also gave some recognition to it when the Clean Water Act of 1977 was passed and "inland waters of the United States" was defined as those waters of the United States lying inside the baseline from which the territorial sea is measured and those waters outside such baseline which are a part of the Gulf Intercoastal Waterway.

Therefore, we would like to see the following changes made to H.R. 1198:

(a) On page 2, line 5; change the period after "approaches" to a comma and add "and bays or sounds protected by offshore islands."

(b) On page 2, lines 11 through 12; amend to read, "nautical miles seaward of the lines established in (a). These lines may differ in position for the purpose of different statutes."

The recommended changes would provide for the sections of the U.S. Coastline that now afford the mariner the opportunity to sail coastwise in protected waters, such as Chandealeur and Mississippi Sounds, under inland rules. Using the demarcation line as a point of departure in drawing the second line would provide for consistency, give the mariner an understandable set of circumstances to deal with, and, in effect, give him one less line to worry about.

The opportunity to submit our comments is appreciated.

Sincerely,

HAROLD D. MUTH,
Vice President, Government Relations.

Mr. BIAGGI. We will keep the record open until July 6, 1979, for the receipt of any additional and relevant record material.

[The bill and departmental reports follow:]

[H.R. 1198, 96th Cong., 1st sess.]

A BILL To clarify the authority to establish lines of demarcation dividing the high seas and inland waters.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 2 of the Act of February 19, 1895 (28 Stat. 672), as amended (33 U.S.C. 151), is amended to read as follows:

"(a) The Secretary of the department in which the Coast Guard is operating shall establish appropriate uniform and identifiable lines dividing the high seas from harbors, rivers, and other inland waters of the United States, for the purpose of determining the applicability of special navigational rules in lieu of the International Regulations for Preventing Collisions at Sea. These lines may not be located more than three nautical miles seaward of the base line from which the territorial sea is measured, except in dredged channel harbor approaches.

"(b) The Secretary shall also establish appropriate identifiable lines dividing inland waters of the United States from the high seas for the purpose of determining the applicability of each statute that refers to this section or this section as amended. These lines may not be located more than twelve nautical miles seaward of the base line from which the territorial sea is measured. These lines may differ in position for the purposes of different statutes.

"(c) For the purposes of this section, the term 'United States' includes the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Canal Zone, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas, the Trust Territory of the Pacific Islands, and any other Commonwealth, territory, or possession of the United States."

DEPARTMENT OF STATE,
Washington, D.C., June 12, 1979.

HON. JOHN M. MURPHY,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your request for comments on H.R. 1198, a bill "to clarify the authority to establish lines of demarcation dividing the high seas and inland waters."

The Department of State is aware of the necessity for determining the dividing line between areas where the inland rules of the road are applicable and areas where the International Regulations for Preventing Collisions at Sea are applicable. Furthermore, the Department has no objection to clarifying the manner in which this determination is carried out.

However, in light of the fact that any line which is established in the sea is often used to justify positions for which the line was not intended, and the fact that lines similar to those which would be established under H.R. 1198 have been and are the subject of litigation before the Supreme Court concerning domestic law questions governing Federal-State jurisdiction with implications for international law matters, the Department believes that a cautious and coordinated approach should be taken regarding this question. In this connection, we believe that certain changes could be made in the bill to make it more acceptable from our perspective, while not defeating the purpose of the bill.

Specifically, the Department would wish to see language throughout the bill which would relate the lines to their purpose, rather than using terms of art such as "high seas" that have international and domestic legal meaning and importance

and which are not applicable to this situation. For instance, instead of using the phrase "lines of demarcation dividing the high seas and inland waters", a phrase such as "lines for the purpose of determining the applicability of special navigational rules in lieu of the International Regulations for Preventing Collisions at Sea" might be used.

A second change which we believe is necessary is that the Secretary of the Department in which the Coast Guard is operating should be required to have the concurrence of the Attorney General and Secretary of State before publishing any lines. Such a requirement would assure coordination in order to avoid prejudice to our international and domestic legal positions.

The Department also believes that it would be useful if there were a specific statement in the legislation to the effect that the lines established are not to be deemed determinative of questions of international law.

The Department presumes that the other statutes referred to in section (b) of the bill would be statutes which deal with navigational matters of a technical nature, and not with resource, pollution, or other law enforcement matters. In this connection, the Department would defer to the views of other domestic agencies, more knowledgeable of the practical implications regarding the practical effect and necessity for section (b) of the bill.

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

Sincerely,

DOUGLAS J. BENNET, Jr.,
Assistant Secretary for
Congressional Relations.

OFFICE OF THE SECRETARY OF TRANSPORTATION,
Washington, D.C., June 4, 1979.

Hon. JOHN M. MURPHY,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Department of Transportation concerning H.R. 1198, a bill to clarify the authority to establish lines of demarcation dividing the high seas and inland waters.

This bill would amend section 151 of title 33 United States Code by deleting the existing section and replacing it with three subsections concerning the establishment of demarcation lines for the nautical rules of the road, boundary lines for marine safety statutes, and the section's definition of the term "United States".

Presently, the Coast Guard establishes demarcation lines to delineate the applicability of the International Regulations for the Prevention of Collision at Sea (COLREGS) from the inland rules of the road established under the authority of section 1607 of title 33 United States Code. The Coast Guard also establishes boundary lines under the authority of section 151 of title 33 United States Code to determine the applicability of the various laws that refer to that section. Although this bill does not create any additional authority, it does clarify the Coast Guard's authority to establish these lines and the Department of Transportation supports it, with the following suggested changes:

The word "uniform" should be deleted from the first sentence in subsection (a) as there are often different criteria in different locations for establishing demarcation lines. The word "demarcation" should be added in the same sentence between "identifiable" and "lines"; and, likewise, "boundary" should be added to the first sentence in subsection (b) between "identifiable" and "lines". These additions would help clarify the distinctions between these two types of lines. The last sentence of subsection (a), which would prohibit locating the COLREGS Demarcation Line more than three nautical miles seaward of the baseline from which the territorial sea is measured except in dredged channel harbor approaches, should be deleted inasmuch as it would create possible disadvantages in administering the COLREGS Treaty. While acknowledging that application of the inland rules of the road to portions of the high seas would appear to be inconsistent with the intent of the COLREGS Treaty, we nevertheless favor preserving such interpretive flexibility as the Treaty language now, or as it might be amended from time to time, may afford. This would avoid the unnecessary burden of having to seek further amendments to 33 United States Code 151 as circumstances change.

Finally, the words "or this section, as amended" at the end of the first sentence in subsection (b) should be deleted as they are unnecessary.

The Office of Management and Budget advises that from the standpoint of the Administration's program there is no objection to the submission of this report for the consideration of the committee.

Sincerely,

(For Linda Heller Kamm).

Mr. BIAGGI. I would also like to mention that the subcommittee is, and has been, somewhat annoyed at the consistent and uninterrupted inability of the Coast Guard to provide us with its statement and supporting materials 24 hours prior to a scheduled hearing—as is called for by the committee rules. Hereafter, I will expect to receive the materials as called for in our rules, whether or not the materials have received the blessing from the higher authorities. Obviously the delay in providing this committee with the statement in compliance with the rule hampers the committee work and I think it is obvious that that is a condition that should be corrected.

The first witness representing the Coast Guard will be Rear Adm. Clifford DeWolf, Chief Counsel, U.S. Coast Guard.
Admiral DeWolf.

STATEMENT OF REAR ADM. CLIFFORD DeWOLF, CHIEF COUNSEL, U.S. COAST GUARD, DEPARTMENT OF TRANSPORTATION, WASHINGTON, D.C.

Admiral DeWOLF. Good morning, Mr. Chairman and members of the committee.

I am Rear Adm. Clifford DeWolf, Chief Counsel of the U.S. Coast Guard. Permit me, at the outset, to apologize for the delay in the delivery both of the statement and of that letter directed to Chairman Murphy. Those documents passed my office in the clearance process some time ago and since that time I have not been personally involved in their clearance. Nevertheless, I will take your message back in an effort to assure that delivery in the future is more timely.

Thank you for the opportunity to express the administration's views on H.R. 1198, a bill to clarify the authority to establish lines of demarcation governing the application of the nautical rules of the road and certain marine safety statutes.

As you know, on July 15, 1977, the 1972 Convention on the International Regulations for Preventing Collisions at Sea entered into force internationally and for the United States. The treaty obligates party nations to apply the international regulations to the high seas and all waters connected therewith navigable by seagoing vessels. Special rules may be established for roadsteads, harbors, rivers, lakes, or inland waterways. Because of this obligation the then existing line of demarcation had to be changed. This was accomplished by creating two lines—the Colregs demarcation line for delineating the application of the International and Inland Rules of the Road, and the Boundary Line to ascertain the application of certain marine safety statutes. Prior to July 15, 1977, the same line served both purposes, and in several areas, the line was located on the high seas.

In making the change, the Coast Guard determined that 33 U.S.C. 151, the statute to be amended by H.R. 1198, no longer was authority to establish the Colregs demarcation line. Its purpose

since the entry into force of the Colregs Treaty was solely to ascertain the application of certain marine safety statutes. Authority for the Colregs demarcation line was Executive Order 11964, the Colregs Treaty, and 14 U.S.C. 2. The Coast Guard's rationale for its action is contained in the preamble to the July 11, 1977, Federal Register at page 35782.

On July 27, 1977, the President signed into law the International Navigational Rules Act of 1977 (Pub. L. 95-75). The Coast Guard considers that section 8 of this law provides additional authority to establish the Colregs demarcation line.

I am aware of the contrary view that you, Mr. Chairman, have had with the Coast Guard's determination concerning 33 U.S.C. 151. You have been especially concerned that authority for two lines was never contemplated by 33 U.S.C. 151. Because of your concern, you introduced H.R. 1198, which would clarify the authority to promulgate the Colregs demarcation lines and the boundary lines. The Administration agrees that this clarification would be useful and therefore supports the bill, subject to some minor changes which are identified in the Department of Transportation's letter dated June 4, 1979, to Chairman Murphy.

I would like to highlight one comment, however. The last sentence of subsection (a), which would prohibit locating the Colregs demarcation line more than 3 nautical miles seaward of the baseline from which the territorial sea is measured, except in dredged channel harbor approaches, should be deleted as it provides possible disadvantages in administering the Colregs Treaty. While acknowledging that application of the inland rules of the road to portions of the high seas would appear to be inconsistent with the intent of the Colregs Treaty, we nevertheless favor preserving such interpretive flexibility as the treaty language, now or as it might be amended from time to time, may afford. This would avoid the unnecessary circumstance of having to seek further amendments to 33 U.S.C. 151 as circumstances change.

Thank you, Mr. Chairman. That concludes my prepared statement.

Mr. BIAGGI. Thank you, Admiral.

You state that you desire to eliminate the 3-nautical-mile requirement to preserve interpretive flexibility to avoid seeking further amendments as circumstances permit. One of the reasons we are amending the law is because the Coast Guard has flexed the law so much that inland navigational rules were being applied 25-30 miles into the high seas—considerably distant from inland protected waters. These are the reasons why it was felt that limitations should be placed upon the authority of the Coast Guard.

In light of the intent of the bill, the suggestion would seem to vitiate the whole notion. What kind of observation would you like to make upon that comment?

Admiral DEWOLF. The 3-mile limitation written into section 151(a) as you would amend it, of course, only pertains to the dividing line between the applicability of the international rules of the road and the inland rules of the road. So to that extent, it does not address the second point you made concerning applicability of the marine safety statutes. The problem we have in subsection (a) is twofold. The first is that the addition of the exception in dredged

channel harbor approaches implies the creation of authority to extend the line beyond the territorial sea.

It is our considered opinion that the treaty now, although it does not speak in terms of limitation to the territorial sea, nevertheless already constrains the Coast Guard from drawing that demarcation line beyond the territorial sea. So to that extent the exception in that subsection (a) would seem not to comport with the requirements of the treaty as it now exists.

Because of what I just stated, it seems also apparent to write into the bill the 3-mile constraint is superfluous. It adds nothing to the present law and is a possible disadvantage at such times as there might be changes in the treaty and, as I stated in the statement, it precludes any interpretive flexibility that the treaty may afford.

Mr. BIAGGI. The Coast Guard has taken unto itself a great deal of latitude in applying flexibility—3 miles, 12 miles, and now 30 miles. What will prevent them from going out 40 miles?

Admiral DEWOLF. Our position since the treaty, and when I say "our", I mean the position of my predecessor in the Chief Counsel's office and my position, is that the treaty language must be interpreted to preclude drawing demarcation lines external to the territorial sea and the regulations which we have promulgated have essentially reflected that opinion.

Mr. BIAGGI. If that be the case, then you should not be objecting to lines 4 and 5 where you invite exception to "dredged channel harbor approaches"?

Admiral DEWOLF. The problem I have with the exception, Mr. Chairman, is that it seems to imply that there is an authority created here to draw a line which is in a place external to or beyond the territorial sea. It can be interpreted no other way because that part of the sentence which precedes it limits the line to the territorial sea.

Mr. BIAGGI. If we delete that last reference to dredged channel harbor approaches, would the remaining language be less objectionable?

Admiral DEWOLF. Yes, sir. I think then it comports with what the treaty already requires. To that extent, I think it is probably superfluous but, nevertheless, it is not violative to what is considered to be the correct interpretation of the treaty.

Mr. BIAGGI. Recently, the Coast Guard issued a final regulation which removes existing lines of demarcation from Nantucket and Vineyard Sounds and all Alaskan waters, making them subject to the International Regulations for Preventing Collision at Sea, 1972, because certain portions of these existing lines had extended beyond the 3-mile territorial sea. It is understood that the Coast Guard has been reviewing such lines in other areas of the country to determine if similar problems exist.

Could you provide us with any information concerning this review?

Admiral DEWOLF. Yes. The only place that a continuing problem exists is in the Gulf of Mexico, in the Mississippi Sound area. That is the only place where it could be charged that the line is external to the territorial sea.

Mr. BIAGGI. Do you contemplate any difficulty in moving these lines?

Admiral DEWOLF. The line on the Mississippi Sound area?

Mr. BIAGGI. Yes, sir.

Admiral DEWOLF. Yes, sir. One of the reasons the line is still where it is is because of the geography of that area and the historic use of that part of the Mississippi Sound that encompasses the Intracoastal Waterway. Offshore of the mainland there are the barrier islands extending anywhere from 5 to 7 miles offshore. Those islands, Ship Island, Horn Island, Dolphin Island and so forth, along that stretch of the coast provide a natural barrier and the waters shoreward of those islands have historically been considered to be inland waters. When one considers that the distance of the waters offshore and the drawing of the territorial waters around the islands and from the shore will not encompass the distance, it leaves pockets of what would have to be called international waters.

Therefore, in a technical sense one must conclude that the lines now drawn through the barrier islands are violative of the provisions of the existing treaty. Nevertheless, we have been somewhat reluctant to move that line shoreward because of the confusion that could result from vessels navigating the Intracoastal Waterway having to shift back and forth from international rules to inland rules while traversing that area of about 50 miles.

Mr. BIAGGI. With reference to those pockets in the high seas areas, the suggestion has been made to attempt to amend section 1(a) as follows:

On page 2, line 5, strike the word "approaches." And insert in lieu thereof the words "approaches, and bays and sounds protected by offshore islands."

Would the Coast Guard have any problems with that?

Admiral DEWOLF. I guess I would have the same problem with that that I already described with regard to the "exception" line. In other words it implies the authority to impose inland rules on international waters. To that extent it is violative of what the treaty and in fact requires.

Mr. BIAGGI. In light of the violation of the international treaty, what suggestion would you make to deal with this problem?

Admiral DEWOLF. Very candidly, Mr. Biaggi, we have been looking carefully at this one remaining place where these demarcation lines are external to the territorial sea. We have not really arrived at a conclusion yet as to how we should proceed.

As you know, the boundary line has been drawn through these barrier islands since July 15, 1977, and no dire international consequences have resulted. I have to say that our inclination is to leave the line where it now exists at the moment.

At the same time, however, we are looking at the potential of simply doing away with the line which would therefore be technically in compliance with the treaty and in trying to assess what possible marine safety impact that would have. Part of the problem, of course, is that the Intracoastal Waterway is used by extensive barge traffic which otherwise operates totally within the inland waters. The persons who operate those towboats and tugs are licensed by the Coast Guard for that inland water business. The examination which we give them before we give them a towboat operators license examines them only on the Inland Rules of

the Road. We feel it would be irresponsible to move that line in, thereby imposing a requirement on those pilots and operators to utilize International Rules of the Road where we, the Coast Guard, have not had an opportunity to explore their competence in that regard.

There are aspects to the problem that make the solution by simply moving the line in very difficult.

Mr. BIAGGI. I have been advised that the Seagoing Barge Act presents a certain number of problems in certain coastal areas, and that there is a desire to provide some flexibility with respect to applicability. A request has been made to provide the Coast Guard with authority to vary the applicability of the act from within zero to 12 miles seaward from the baseline for selected areas through regulations.

Do you foresee any domestic or international problems from that?

Admiral DEWOLF. I do not.

Mr. BIAGGI. What would the impact on the safety of these barges be if they were permitted to operate out as far as 12 miles?

Admiral DEWOLF. I would be uncomfortable to have an inflexible line that far offshore. It would have the effect of allowing any number of inland barges to operate in the open sea without being subjected to Coast Guard inspection, the inspection being required to assure that those barges are being built in a way that is suitable to the use to which they are put. To make the lines out there 12 miles and permit certain of those inland barges to operate in the open sea without inspection would not be within the interest of safety.

Mr. BIAGGI. Have you seen a copy of our proposed amendment to the Seagoing Barge Act which might assist in resolving your problem?

Admiral DEWOLF. I have, sir.

Mr. BIAGGI. Do you have any opinions on this proposal?

Admiral DEWOLF. Yes, sir. We would favor the inclusion of that language as part of H.R. 1198. The problem that has been created with the Seagoing Barge Act is that its applicability has not been tied to any particular line of demarcation. Accordingly, the Coast Guard's legal interpretation has been that it pertains to any barge which operates beyond the line which separates the internal waters of the United States from the territorial sea. It has been our observation that that is too stringent a requirement. There are a number of barges that operate close in, beach nourishment projects, dredge barges, where it is unrealistic to insist they be built to specifications that would permit their use in the open sea. As a result, we have permitted the local officers in charge of marine inspection to determine on an individual basis which barges should be subject to inspection and which should not. This creates problems both for the Coast Guard and the industry and therefore, to have a line defined by statute beyond which the barges would be subject to inspection would be helpful to the industry and to the Coast Guard.

Mr. BIAGGI. While the proposed bill would give the Coast Guard authority to draw the lines in different positions for different statutes, it is our intention that for any particular statute there can be

only one line. That is, the bill does not give the Coast Guard the authority to vary the lines for different classes of vessels under a particular statute.

Does the Coast Guard concur with this interpretation of the language in the bill?

Admiral DEWOLF. We do, Mr. Chairman.

Mr. BIAGGI. Thank you.

Mr. Treen?

Mr. TREEN. Thank you, Mr. Chairman.

I may want to reserve most of my time to after the other witnesses have testified.

The Coast Guard has had no problem apparently with respect to the wording of the treaty in establishing its current line and yet you seem to have some trouble if this bill is passed that it might not be in conformity with the treaty. I am not sure I understand that. I think you have, in effect, suggested that you may have violated the treaty already in your regulation?

Admiral DEWOLF. Yes, sir.

Mr. TREEN. Is that your legal position?

Admiral DEWOLF. Yes. I think we have to concede that that is correct, Mr. Treen.

Mr. TREEN. What international repercussions does that cause, if any?

Admiral DEWOLF. None. Certainly we have had no objection to drawing the line through the barrier islands. As you may know, the amount of international traffic in that area is relatively limited. Such ocean going traffic as does exist, of course, proceeds to and from the mainland at Gulfport, Biloxi, and Pascagoula. The traffic which traverses there is all domestic traffic. If our line is subject to treaty, we are always subject to some objection by foreign vessels or the country from whence it comes for that violation. Nevertheless, I do not see it to be of great significance in light of the uniqueness of the geography and what we feel would be the adverse marine safety impact of moving that line inward or dispensing with it.

Coming back to the point you were asking about a moment ago, I guess the thing that makes me uncomfortable with your subsection (a) is that it seems to remove all doubt with regard to the potential of putting the line where we put it.

While I have to tell you that objectively I would have to conclude where the line is is violative of the treaty, nevertheless, the treaty language gives me some basis for advancing the language that it is not violative.

Mr. TREEN. And you have not had to engage in that language internationally?

Admiral DEWOLF. No.

Mr. TREEN. I will reserve the rest of my time.

Mr. BIAGGI. With regard to that language, it obviously serves a purpose. Could we not get from IMCO special dispensation, a reservation with regard to that?

Admiral DEWOLF. The difficult thing of trying to address that topic now, I might say at the outset that your question is probably better put to the State Department rather than the Coast Guard. The difficult thing now would be, of course, that inasmuch as the

treaty has been ratified, it is a little bit late to attempt to go back and get some reservation or something of that nature. That should have been done back at the stages when the treaty was being negotiated. Obviously, there are changes down the road, changes to the treaty. It would be somewhat difficult at this particular point in time where the treaty has just recently come into force to go back and accomplish that effect. I think there may be some potential in the future for addressing it.

Mr. BIAGGI. In any event, it would be a lengthy process?

Admiral DEWOLF. I beg your pardon?

Mr. BIAGGI. In any event, it would be a lengthy process?

Admiral DEWOLF. I would think so, Mr. Chairman.

Mr. BIAGGI. Mr. Breaux?

Mr. BREAU. Thank you.

I think I am about as confused as I possibly could be on any subject. I see that some of the witnesses from my own State of Louisiana representing the Offshore Marine Service Association are apparently supporting this. The International Association of Drilling Contractors are supporting it.

The person representing the Louisiana State Water Resources Council is apparently opposing it.

Will you tell me in layman's terms what the problem is now that makes the legislation necessary?

Admiral DEWOLF. The problem, Mr. Breaux, is that the proposed legislation takes the position that we, the Coast Guard, do not have the authority to do what it is we have already done, and that is the starting point for this legislation.

Mr. BREAU. What is it that you are doing now that might create some problems?

Admiral DEWOLF. The statutory law as it now exists and as it has existed for many years authorized the Coast Guard to draw a line separating the inland waters from the international waters concerning the applicability of the international rules of the road on the one side, and the Inland Rules of the Road on the other. Over the years the Congress has tied other marine safety statutes to that same line.

Mr. BREAU. The existing line is the 3-mile territorial limit?

Admiral DEWOLF. No. That is defined in 33 U.S.C. 151, as it now exists. There was no requirement within that statute that the line be drawn in any particular place because that statute was only a domestic or principally of domestic applicability. Historically, the Coast Guard drew that line in some places that was external to the territorial seas.

Mr. BREAU. The demarcation line is only for one purpose?

Admiral DEWOLF. No. It is for the marine safety statutes and the division of the rules of the road.

Mr. BREAU. All right.

Admiral DEWOLF. When the treaty came into effect, it required that the line be drawn within the territorial sea.

Mr. BREAU. For both purposes?

Admiral DEWOLF. No, only for the rules of the road purposes which the treaty addresses. The problem was taking that 151 authority and moving the line in. You would not be moving it merely for the rules of the road purposes. You would be moving it for the

applicability of certain marine safety statutes also. The Coast Guard was not prepared to do that because of the diverse effect that moving that line for marine safety statute purposes would have.

Accordingly, the Coast Guard devised a solution, devised in a sense the legal authority for doing what we did. It is admittedly somewhat strained and we moved the line in for the purpose of delineating the applicability of the rules of the road; while, at the same time, leaving the line where it had been for the applicability of the marine safety statutes.

Mr. Biaggi's bill would, in fact, ratify the road that the Coast Guard took by creating new statutory authority to do just that.

Mr. BREAU. If the International Treaty affected it only with respect to rules of the road, and if it does not affect marine safety standards, you could leave the line farther out?

Admiral DEWOLF. Mr. Biaggi's fundamental concern is that 33 U.S.C. 151 certainly did not contemplate drawing two separate lines for different purposes. Therefore, his attitude is that the Coast Guard literally did not have the authority to create two lines where the statute only refers to one.

Mr. BREAU. What about the argument that I have heard some make and will make in the testimony coming up about the situation in Louisiana where a vessel heading out could conceivably go through several different rules of the road zones which would be applicable to the same vessel proceeding in the same body of water?

Admiral DEWOLF. The point is best illustrated on the chart I have before me which has on it the limits of the territorial sea. I do not know if you can see it where you are sitting. The upper line is 3 miles from the baseline along the coast. This would be the limit of the territorial sea. Beyond that, of course, is the high seas.

Off the coast, there are this group of barrier islands that I know you are familiar with, and again around these islands the territorial sea is also drawn no more than 3 miles from the land. Because those two lines do not meet, you end up with these pockets here which are international or high seas which require, under the treaty, that the international rules of the road pertain, Mr. Breau.

Mr. BREAU. How are those areas between the two handled at the present time?

Admiral DEWOLF. At the present time, notwithstanding what the treaty would require, we have drawn this line that defines the international rules and the inland rules right through the barrier islands and declare that all of this is subject to the inland rules and everything beyond the international rules.

Mr. BREAU. That is not a good idea?

Admiral DEWOLF. We think it is for marine safety purposes, but the problem is that it appears to be violative of what the treaty requires.

Mr. BREAU. Would the legislation allow you to continue that type of operation?

Admiral DEWOLF. No, the legislation would not impact one way or another on the point.

Mr. BREAU. Why are we considering the legislation?

Admiral DeWOLF. The language of the legislation about not being able to put the line beyond the 3-mile limit would seem to present a stronger argument than even the treaty does for requiring a line somewhere on the coast which then would have the effect of requiring barges traversing across the Intracoastal Waterway every time it hit one of these pockets to shift to the international rules of the road.

Mr. BREAU. Does the Coast Guard support it?

Admiral DeWOLF. No.

Mr. BREAU. You do not support it. But you say the legislation would require it but you support the legislation?

Admiral DeWOLF. It is helpful in the sense that having the specific authority which gives the Coast Guard the ability to draw the two separate lines. We are dealing with not just Mississippi Sound, but the entire coastline.

Mr. BREAU. If I take the position that those areas between the barrier islands off the coast of Louisiana and the main shoreline of Louisiana should not be treated as international high seas for use of the rules of the road and safety requirements, would I be supporting the legislation or not?

Admiral DeWOLF. The legislation does not really impact on the problem. Mr. Biaggi and his staff have suggested what they perceived as perhaps being some ability to solve this problem I have been describing, but I do not think there is a potential for doing that within the legislation literally because of the treaty which is also the national law which creates the problem.

So we have the national law on one side creating the problem. I do not think you can solve it by a piece of domestic legislation over here. The only point I was making with regard to the potential impact of Mr. Biaggi's bill on this problem is that to include that language about the 3-mile limit would make it, I think, more awkward than it now is for the Coast Guard to continue the line out here in the barrier islands.

Mr. BREAU. A careful reading of the treaty would prohibit the area between the barrier islands and the mainshore to be treated any other way other than high seas? The treaty would require it to be high seas past the 3-mile limit?

Admiral DeWOLF. A literal technical interpretation would require that.

Mr. BREAU. If that is a treaty which we are signatory to, domestic legislation would not affect the applicability of the treaty?

Admiral DeWOLF. Exactly.

Mr. BREAU. No one has challenged the fact that we have treated these areas in that manner which apparently would be in contravention of the treaty, however?

Admiral DeWOLF. No, sir, no one has.

Mr. BREAU. Thank you, Mr. Chairman.

Mr. BIAGGI. Mr. Snyder?

Mr. SNYDER. Thank you, Mr. Chairman.

I apologize for being late, but the plane I took from Kentucky just arrived. The weather was foggy this morning.

Mr. BIAGGI. You were on a DC-10?

Mr. SNYDER. No, I was not.

The barge people back home have talked to me about the potential problem. There was one person here at 7:30 this morning. I left home at 8 o'clock to go catch a plane. The gentleman from Louisiana, Mr. Breaux, has been talking to you, and apparently any domestic legislation we pass will not solve their problem about Intracoastal Waterways going through both inland and high seas areas. But I would ask this:

If, in fact, we passed legislation with appropriate amendments that spelled out how we intended to treat that area, would that not be advantageous from the standpoint of putting everybody on notice as to how the area is to be treated?

Admiral DEWOLF. I understand your question, sir. I do not know what the answer is. It would make the Coast Guard's job easier because we could point to a Federal statute even if it would be in conflict with the treaty. I would assume, however, that the State Department probably would be unhappy with the solution you are suggesting because it would be what it purports to be, a domestic statute, clearly not in accord with other Federal law that is the treaty. It presents an awkward situation for the Congress, perhaps more awkward than it does for the Coast Guard.

Mr. SNYDER. Referring to the language of the bill which the Chairman has introduced, H.R. 1198, and subsection (a), page 2, these lines may not be located more than 3 nautical miles seaward of the baseline in which the territorial sea is measured except in dredged harbor channel approaches.

Are there dredged harbor channel approaches within 3 miles?

Admiral DEWOLF. Yes, sir, there certainly are.

Mr. SNYDER. Would they not be in contravention of the treaty?

Admiral DEWOLF. Yes, sir. I have already made that point earlier.

Mr. SNYDER. I am sorry.

So if we add to that the language suggested by, I think, American Waterways Operators, "and bays or sounds are protected by offshore islands," we would not be doing any more violence to the treaty with that amendment than the language in the bill "dredged channel harbor approaches"?

Admiral DEWOLF. I guess the answer to that question is yes, you would not.

Mr. SNYDER. Yes, you would not?

Admiral DEWOLF. It would create the same kind of a problem but it would just extend it in scope. In other words, the same kind of problem that subsection (a) now creates.

Mr. SNYDER. Subsection (b) also refers to some 12 nautical miles out. As I understand it, that section is not for navigation but it is for licensing?

Admiral DEWOLF. It applies to application of marine safety standards and has no impact on navigation.

Mr. SNYDER. Is that 12-mile limit which appears in the bill also in compliance with the treaty?

Admiral DEWOLF. No, sir.

Mr. SNYDER. Therefore, that could be changed without doing any violence to the treaty if the committee so determined?

Admiral DEWOLF. Yes, sir. Currently there is no such limitation as that language, and that line which controls applicability of

marine safety statutes is in some places less than 12 miles offshore and in some beyond 12 miles offshore.

Mr. SNYDER. How long has this treaty been in effect?

Admiral DEWOLF. Since July 15, 1977.

Mr. SNYDER. Almost 2 years?

Admiral DEWOLF. Yes.

Mr. SNYDER. You have not had any problem with allowing the American Intracoastal Waterway operators to operate within inland waters?

Admiral DEWOLF. No, sir. Nobody has filed a complaint.

Mr. SNYDER. Has the State Department been complaining about that?

Admiral DEWOLF. Not specifically. Let me give you a little background that perhaps puts this in better perspective.

Not too long ago, the State of Massachusetts was engaged in a boundary dispute with the Federal Government and was pointing to the fact that the line we had established south of Cape Cod across Nantucket Sound provided some basis for their arguing that this had the effect of extending their jurisdiction. As a result, both the State Department and particularly the Justice Department were unhappy with the Coast Guard because they identified that line as not being in compliance with the treaty. When this matter was brought to my attention, I advised the Coast Guard program director that legally the treaty required all these lines to be within the territorial sea and that he should take action to move that line, one in the Gulf of Mexico, and one off the State of Alaska, inward.

In early April he complied with my direction, with my legal advice is a better term, and moved that line up off of Massachusetts and the one in Alaska in. He has not yet complied with my advice to move the one in the Gulf of Mexico in for the reasons that I have described here this morning.

Mr. SNYDER. If he should comply with your advice to change the one in the Gulf of Mexico, how would the channel be marked so that vessels traversing it would know whether they were in the inland waters or territorial seas as they passed through those two or three pockets?

Admiral DEWOLF. Well, there is one possible solution and we have looked at the various alternatives. Probably the wisest course, if we wanted to make a change, would be simply to do away with that demarcation line entirely in that area. That would then have the effect.

Mr. SNYDER. You mean the principal line of demarcation?

Admiral DEWOLF. Yes.

Mr. SNYDER. That would have the effect of requiring the use of international rule of the road all the way across Mississippi Sound?

Admiral DEWOLF. Yes.

Mr. SNYDER. Part of it is not in international waters.

Admiral DEWOLF. That does not make any difference. The treaty requires that international rules apply on the high seas, and those waters that are connected therewith navigable by seagoing vessels, so if there were no line, the effect would be that the international rules would pertain all across Mississippi Sound. That would have the effect that the vessel traversing inland waterways would operate on inland rules until it came into this area and then it would

proceed on international rules through the Mississippi Sound or perhaps the Chandeleur Sound, wherever the ICW runs. And when it got beyond that point, it would shift back to the inland rules of the road. That would be the best solution for the inland rules of the road problems. It may not be the best solution for the application of international marine safety factors.

Mr. SNYDER. If a barge came down the Mississippi under the circumstances you just enumerated and headed up the Intracoastal Waterway, where would he change?

Admiral DEWOLF. If he came from west to east, he would come through Breton Sound and on up past the Chandeleur Islands. Somewhere he would shift to the international rules of the road and he would proceed under the international rules of the road until he crossed the Mississippi Sound. Somewhere past the barrier islands, he would shift back to inland rules.

Mr. SNYDER. There would be some markers to advise him?

Admiral DEWOLF. That would be a relatively easy marking method.

Mr. SNYDER. Buoys?

Admiral DEWOLF. We do not normally use buoys. We try to find a fixed object because buoys are subject to being not permanent.

Mr. SNYDER. Is there a lot of recreational traffic in this area?

Admiral DEWOLF. Yes, sir, and that is another part of the problem. The recreational craft that normally traverse the Intracoastal Waterway are normally in inland waters for the entire part of the trip. The navigator or operator of the vessel may not be familiar with the international rules of the road also. So the minute you create a situation where he has the requirement for shifting back and forth, you interject a potential for confusion.

Mr. SNYDER. As a practical matter, are most inland tow captains familiar with both sets of rules?

Admiral DEWOLF. I am not really able to answer that. When we examine the tow boat operators for examination on inland waters, we test them on inland rules of the road and not international rules.

Mr. SNYDER. Thank you, Admiral DEWOLF.

Thank you, Mr. Chairman.

Mr. BIAGGI. Mr. Treen.

Mr. TREEN. Thank you, Mr. Chairman.

I have just one or two questions.

Section (b) of the bill would permit a number of different lines to be established, is that not correct?

Admiral DEWOLF. That is correct, Mr. Treen.

Mr. TREEN. Presently you have established one line and you have now proposed a second line. The one line that you established is located in some instances more than 12 nautical miles seaward of the baseline from which the territorial waters measure?

Admiral DEWOLF. That is correct.

Mr. TREEN. If this bill were enacted, you would be required to bring in these other lines substantially from the present line, is that correct?

Admiral DEWOLF. That is correct, Mr. Treen.

Mr. TREEN. Then do you support that section in lieu of the fact that it would cause you to bring the line in for these other purposes other than the collisions-at-sea treaty?

Admiral DEWOLF. Yes and no, Mr. Treen. Yes and no. If I had my choice, I would prefer not to be so limited and then the Coast Guard would have the authority to draw the lines where we felt the needs of marine safety required it. At the same time, 12 miles is a sufficient distance offshore so that the need for establishing the line beyond that is somewhat limited and the Coast Guard would not have any significant difficulty, I think, in complying with that prohibition for a line not extended beyond 12 miles.

Mr. TREEN. If you have flexibility to go beyond 12 miles, you can obviate some of these problems where the baseline is in Chande-leur Sound and Breton Sound? If you are constrained to bring that line in within 12 miles of the baseline, you may have to bring it inside the Chandeleur Island line, is that not correct? I do not know what the distance is.

Admiral DEWOLF. I do not know what the distance is either. Obviously, if the distance is less than 12 miles, the answer would be yes, sir.

Mr. TREEN. I am sorry. Would you give it again?

Admiral DEWOLF. I said obviously if the distance is less than 12 miles, the answer would be yes, sir.

Mr. TREEN. All right.

I have been looking for a scale on this chart. You have got some high seas now inside that line or you would have. For the purpose of your regulation, you do not have any high seas within the line formed by the Chandeleur Islands.

Admiral DEWOLF. Are you referring now for navigational rules purposes?

Mr. TREEN. Yes.

Admiral DEWOLF. No. We treat that all as inland waters now, Mr. Treen.

Mr. TREEN. OK.

If this section (b) constrains you to bring that line in for all other purposes within 12 miles, then you may have to bring that line in within the Chandeleur Islands line and the Southwest Pass, which is not on my map? You have to bring that line in far from where it is?

Admiral DEWOLF. You are assuming that there is some direct relationship between the lines. That is not true. Merely because you brought the lines in for navigational safety status purposes would not necessarily constrain you to bring the lines in for the rules of the road.

Mr. TREEN. Under this bill you are not going to be able to establish any line more than 12 nautical miles out of the base-line—any line—is that correct?

Admiral DEWOLF. That depends upon the language of the bill. If that is the way the bill is enacted, that is correct, sir.

Mr. TREEN. So the bill is very restrictive in that regard in terms of what you are now doing?

Admiral DEWOLF. Yes, sir.

Mr. TREEN. You will have to bring a lot of these lines in substantially if this bill is enacted like it is?

Admiral DEWOLF. That is correct.

Mr. TREEN. Is there any reason we should not have a limit with respect to the lines other than the lines required by the treaty for regulations for preventing collisions at sea? Is there any reason why we should have complete flexibility, as you now have, to draw these other lines?

Admiral DEWOLF. As I have already stated, Mr. Treen, I would prefer the flexibility.

Mr. TREEN. I would too. I would support you. I am informed that the American Waterways Operators wrote a letter to Chairman Biaggi in which the following statement was made, but I will have to read the whole paragraph so that you will understand it.

H.R. 1198, if enacted into law, could possibly create serious navigational problems in the Mississippi Sound area of the Gulf Coast of the United States. The three-mile limitation, if used, would create pockets of international waters within Mississippi Sound and Chandeleur Sound. Mariners traversing these waters would be in a continuous state of confusion if they passed into and out of the international waters.

Would you agree with that statement?

Admiral DEWOLF. Yes.

Mr. TREEN. The next sentence reads, "In addition, licensing requirements of towing and other small vessels would change from inland licenses to ocean licenses accordingly."

I question whether that is accurate.

Admiral DEWOLF. I don't honestly know. I read that before the hearing and the same question occurred to me. As I have already indicated, there would be a requirement that operators navigating the area know both sets of rules. Inland operators are obviously not required to know the international rules. That point has to be addressed.

Mr. SNYDER. Will you yield?

Mr. TREEN. Yes.

Mr. SNYDER. I am confused.

I refer to Mr. Treen's sectionalized question and your response to the first sentence in the letter from the American Waterways Operators, Inc., to the chairman concerning whether the 3-mile limitation, if used, would create pockets of international waters within Mississippi Sound and Chandeleur Sound and whether there would be confusion heading into international waters. You have shown Mr. Breaux a chart and I have one which was referred to me which was identical or similar. But I thought that when I was interrogating you, you indicated that if in fact your instructions to whomever you gave them to, to impose the rules of the treaty in this area were followed, the effect would be to require that all of the vessels begin at some point to operate under the international rules of the road, even if they were inland waterways vessels heading in and out of these pockets. Accordingly, this would eliminate the confusion? Did I misunderstand you?

Admiral DEWOLF. No. The treaty requires that the line be brought within the territorial sea. That is no more than 3 miles from the baseline along the mainland coast. If we did that, that potentially could have the effect that is described in the AWO letter.

My point is that a better solution, if we were constrained to make the change, would be to do away with the line entirely. Rather than having these pockets, we would have to alternate

between one set of rules to another. You would have another set of rules across the entire Mississippi Sound.

Mr. SNYDER. Would you have the authority to do that? Since you have already instructed somebody to make that change, would you have authority to do what you have done?

Admiral DeWOLF. Yes, sir. We have done exactly that.

Mr. SNYDER. But you would not have the authority in the—

Admiral DeWOLF. Yes, sir.

Mr. SNYDER. If you make the changes, you would not have the pockets for navigation purposes?

Admiral DeWOLF. It seems illogical to make a change that would create that pocket problem.

Mr. SNYDER. I agree with you. I wanted to see if I understood.

Admiral DeWOLF. The better solution would be just to do away with the line.

Mr. SNYDER. So if the bill is passed, you would be under more compunction and perhaps more obligation to do what you last suggested than without a bill? You would probably let it ride like it is until somebody complained?

Admiral DeWOLF. Yes, sir.

Mr. SNYDER. Thank you.

Mr. BIAGGI. Thank you.

Thank you very much, Admiral DeWolf. I wonder if you would stay with us until the panels have finished testifying?

Admiral DeWOLF. Certainly.

Mr. BIAGGI. Let me ask you one question.

Assuming we eliminated that section which places the 3-mile limitation, what would prevent the Coast Guard from extending the navigation safety line way up to the high seas?

Admiral DeWOLF. Nothing, sir.

Mr. BIAGGI. Thank you.

Admiral DeWOLF. That is the situation as it exists now.

Mr. BIAGGI. I am aware of it.

Mr. SNYDER. Mr. Chairman, I wonder if it would be possible for the Admiral to file the map which shows the pockets as part of the record?

Admiral DeWOLF. Yes, I would be happy to do so.

Mr. SNYDER. I ask unanimous consent that he be permitted to do that.

Mr. BIAGGI. Without objection, so ordered.

[The maps were received and placed in the record files of the committee.]

Mr. BIAGGI. We are aware of the fact that it is not always the Coast Guard that is responsible for the delay in supplying information. Other agencies in the executive branch are very lax and it is that absence of cooperation between the legislative branch and the executive branch that causes a bad reflection on the administration of the Coast Guard.

Mr. SNYDER. You can straighten that out, Mr. Chairman.

Mr. BIAGGI. I was not invited.

Now we have an offshore industry panel consisting of Capt. W. A. Mayberry, executive director, Offshore Marine Service Association; Mr. Marshall Ballard, representing International Association

of Drilling Contractors and Mr. Melvin Lemmerhirt, representing the National Association of Dredging Contractors.

PANEL CONSISTING OF CAPT. W. A. MAYBERRY, EXECUTIVE DIRECTOR, OFFSHORE MARINE SERVICE ASSOCIATION; MARSHALL BALLARD, REPRESENTING THE INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS; AND MELVIN LEMMERHIRT, REPRESENTING THE NATIONAL ASSOCIATION OF DREDGING CONTRACTORS

Mr. BIAGGI. Will you proceed, Captain Mayberry?

Captain MAYBERRY. Mr. Chairman and members of the committee, I am William A. Mayberry of New Orleans, La., and I offer this statement on H.R. 1198 in behalf of the Offshore Marine Service Association, owners and operators of American-flag vessels engaged in the offshore oil exploration industry.

The Offshore Marine Service Association supports H.R. 1198 and feels the passage of this bill would resolve the confusion that has existed since the coming into force of the 1972 Colregs (33 CFR 82). When ratified by the Congress and implemented by the U.S. Coast Guard, that agency left the former line of demarcation, renamed "boundary lines" (46 CFR 7) in place for the purpose of applying certain navigation rules including: Vessel Bridge-to-Bridge Radiotelephone Communications Act (33 U.S.C. 1201); the Officers Competency Act (46 U.S.C. 224a); Coastwise Loadline Act (46 U.S.C. 88); Length of Towlines Act (33 U.S.C. 152); and manning certification, crew quarters inspection, and continuous discharge books of seagoing vessels of 300 gross tons and more propelled by internal combustion engines (46 U.S.C. 367) among others.

Although the regulatory authority appeared cloudy, the net effect of this action by the Coast Guard was to maintain the status quo. H.R. 1198(b) would give that regulatory authority to the Coast Guard to establish appropriate identifiable lines for the purpose of determining the applicability of each of the maritime statutes that effect manning, certification and so forth.

There is one notable exception that I would particularly wish to draw to this committee's attention. That exception is the so-called Seagoing Barge Statute (46 U.S.C. 395).

Because that statute uses only the term "seagoing" without any reference to an implementing boundary line, and since the establishing of the new Colregs line; the Coast Guard is directing that certification of such equipment will be required if this equipment passes occasionally or regularly outside of the Colregs line or, if you will, the "headlands".

Although it appears from private conversations that many within the Coast Guard feel that such ruling may be abusive, they seem to feel that they lack statutory authority to grant relief. Accordingly, it is respectfully requested that this committee consider specifically amending H.R. 1198(b) to include direct reference to the Seagoing Barge Act (46 U.S.C. 395).

An amendment by this committee to embrace the Seagoing Barge Act would not be at the expense of safety but would instead protect what may be a significant number of operators that presently operate such equipment in the Gulf of Mexico.

The committee is aware that the former line of demarcation lay far offshore in some sections of the Gulf of Mexico. Perhaps too far in the opinion of many, but be that as it may, it did exist. Industry was afforded the opportunity to develop new and inventive barges designed to work in the shallow waters of the gulf but not constrained by, nor unnecessarily constructed to the rigorous scantling standards required for inspection of the unlimited seagoing barge rules.

It is remarkable that the Coast Guard now feels constrained by the language of this statute, for this statute and the language of other statutes used for interpretive guidance has not changed. It was Coast Guard policy not to inspect these barges that operated solely within the former line of demarcation. Their decision not to inspect was based on the language of 46 U.S.C. 367 and the barge manning statute 46 U.S.C. 72c together with the Coastwise Load-line Act. The latter apparently is still not intended to apply.

An amendment to H.R. 1198 would prevent costly and unnecessary retrofit or complete abandonment of certain offshore services within the oil industry and, additionally, would serve to limit operations offshore to the 12-mile limit or less..

I am certain such relief is also required within the dredging industry. Non-self-propelled dredging equipment falls within the purview of 46 U.S.C. 395. This equipment generally is constructed to inshore or river standards and usually 90 percent of such operations occur inshore, but often the industry is required to work past the headlands on channel approaches to our major ports, and on essential dredging projects important to our Nation such as beach reclamation, among others.

Relief is required for such equipment not only in the Gulf of Mexico but other areas of the United States. An amendment to the language of the act to include barges that work in less hostile coastal waters of the United States would be in the Nation's best interests. Under the public rulemaking process, such waters or areas could be safely and satisfactorily resolved.

I believe the committee is certainly aware of another major problem that lies exclusively within the Gulf of Mexico and I believe one that is directly effected by the proposed H.R. 1198(a). Under the language of (a), the Colregs line may not be located more than 3 nautical miles seaward of the line from which the territorial sea is measured. In so doing, there are created small pockets of waters in Mississippi, Chandeleur, and Breton Sounds where, incredibly, International Rules of the Road would ostensibly apply even though there is no direct access to the sea because of the islands and reefs that form an offshore barrier.

The legal ramifications and attendant problems involving a collision of vessels are immediately apparent, but there is a nagging connotation that somehow the United States has given away these waters behind our barrier islands to the international arena.

There should be a ready solution but I cannot suggest appropriate language, but it would appear that if certain rules prescribing the placement of a baseline that gave due regard to offshore islands and natural barrier reefs, and even to consider that these islands and natural barrier reefs be in fact the baseline, a solution might be achieved. I believe the question and the solution belongs

to this Subcommittee on Coast Guard and Navigation and I respectfully suggest you investigate for appropriate solutions. Although not available to the association, recent court cases involving certain Alaska and Massachusetts waters seem to directly affect this problem. Allegedly they were resolved in favor of the International Convention on the Prevention of Collisions at Sea and in strict compliance with the terms of the convention. This resulted in rulings that departed from past national practices.

And if I may be permitted to depart from my prepared statement, there seems to be a problem of interpretation from Colregs. Colregs authorized the lines of demarcation in Alaskan and Massachusetts waters. In the language of the Alaskan ruling, specifically excluded from the Colregs, are the terms "bays, sounds, and inlets." Under their very natural definition, "bays, sounds, and inlets of the United States" have always been construed to be our territorial waters. There was never any effort to say the bay has got to be carved up somehow because it is over 3 miles from the land.

I submit to you that the areas in the Mississippi have historically and traditionally been identified as Mississippi Sound, Breton Sound, and Chandeleur Sound. How those can be construed not to be part of our territorial sea is a mystery to me.

A bay is identified by a peninsula of land that comes out and extends into the sea. Traditionally we have always scribed a line across, even though the bay did not have a similar peninsula on the other side. But all our national charts since the formation of our country have identified those as American bays, American sounds, and American inlets. Here we have yet another international treaty that seems to tamper with our traditional language. I submit that this learned group of people who participated in the Convention for the Prevention of Collisions at Sea were dedicated people; they had expressed thoughts on how to implement the rules of the road. But somehow in their learned studies they overlooked our national practice as far as our internal waters in the United States are concerned.

If I may comment on the problem Mr. Snyder raised to the Admiral, an easy solution would be to make those waters international. That would be a travesty. We have as many as 5,000 mariners navigating this area of the Mississippi Sound. They would be constrained to be examined in the international rules of the road to engage in the study of those particular rules which perhaps would not be to their detriment to know these things, but they would traverse Mississippi Sound and never meet any international vessels. They would be forced to change their rules to navigate with the people they always navigated with under the inland rules.

I would like to thank the chairman and this committee for the opportunity to testify.

Mr. BIAGGI. Mr. Ballard.

Mr. BALLARD. Yes, sir, Mr Chairman and members of the committee.

I am Marshall Ballard of Penrod Drilling Co. and I am appearing here today on behalf of the International Association of Drilling Contractors (IADC), with regard to H.R. 1198. Let me say at this

time that we sincerely appreciate the opportunity to be here for this purpose.

The IADC is a trade group representing the contract drilling industry, on land and over water. We now have some 520 members from all over the world, although most are U.S. companies which range in size from 1 rig under construction to over 100 rigs in operation. Included in this group are about 25 companies which own and operate approximately 130 inland barge rigs in the U.S. gulf coast area, Alabama through Texas. These barge rigs, which are designed to operate in a maximum of about 20 feet of water, many in less, sit or rest on bottom while drilling and are floated only to move between well locations. They are primarily used in inland areas, but there are some areas along the U.S. Gulf of Mexico, close to shore, where these barges have been utilized efficiently and safely for years. In fact, in most such areas it is the only type rig that can be used due to limited water depths and maneuvering considerations. It is primarily because of these rigs that we are before you today.

The IADC fully supports H.R. 1198. We feel that it will serve to clarify and confirm the Coast Guard's authority in establishing the line of demarcation for inspection and manning between inland waters and the open seas and its administration of the various statutes in and between these areas. At the same time, the proposed statute is flexible enough so that the boundary line can be established through the regulatory process to accommodate the varying coastal and geographical conditions of the United States.

We would additionally, however, respectfully request that the committee consider an amendment to H.R. 1198 making it clear that the dividing line established by subsection (b) would also include barges, as it is our understanding at this time that barges are not included in the Coast Guard's present efforts to differentiate between the 1972 and the previous boundary line for inspection, manning, and other marine safety statutes. It is our further understanding that the reason is based on the Seagoing Barge Act, 46 U.S.C. 395, which contains no definition of seagoing nor refers to any boundary line. Because of this technicality, when the boundary line was changed in 1977 pursuant to the 1972 Colregs, barges which had not been before have suddenly apparently become seagoing with no other change in statute, regulations, or operating conditions, although the Coast Guard has attempted to preserve the status quo with regard to all other vessels by retaining the old line of demarcation of international and inland rules for inspection and manning purposes.

As stated above, we are addressing the inland barge. As no doubt at least some members of this committee are aware, the Coast Guard has recently promulgated regulations to inspect mobile offshore drilling units. At the outset of the work effort leading to the development of these regulations, our industry was advised by the Coast Guard in no uncertain terms in response to specific questions regarding the inland barge that there was no necessity or intent to further regulate this type rig and that the thrust of the regulations was directed to the true offshore units.

However, we have now been informed that due to the new line of demarcation established pursuant to the 1972 Colregs, any rig oper-

ating beyond this line, which essentially in the Gulf of Mexico is the beachline, would in all likelihood be subject to additional regulations again as the Seagoing Barge Act makes no reference to the old line of demarcation or any line of demarcation, but only refers to "seagoing." This was also despite the fact that the line traditionally used in the gulf area for inspection, manning, et cetera, including all kinds and types of barges, had always been the old line of demarcation between the inland and international rules of the road. H.R. 1198, with an amendment to specifically include barges covered under 46 U.S.C. 395, we feel will solve the problem and allow the Coast Guard the flexibility it needs to allow us to continue to operate as was intended prior to establishment of the new 1977 rules of the road line of demarcation. It should also be noted that, as best we can determine, these barges as a whole work in the concerned areas no more than 5 percent of the time and probably less.

If I could digress from the written statement, this statement was prepared on the assumption that the existing 1977 Colregs line is correct. It has come up in earlier testimony and questioning here today that possibly the 1977 line as drawn in the Gulf of Mexico, with which we are basically concerned, may not be correct. Therefore, that line may be quite closer to the shore.

We feel we can live with the 12 miles from where the 1977 line is drawn, in many instances less, as the conditions warrant. If we go 12 miles from the shoreline from Mississippi Sound and inside the Chandeleur Island, we will wind up inside the island and we are right back where we started, Mr. Chairman. Barges should be included with the rest of the marine equipment in the line of demarcation wherever that line winds up being.

Thank you, sir.

Mr. BIAGGI. Mr. Lemmerhirt.

Mr. LEMMERHIRT. Mr. Chairman and members of the committee, I am Melvin Lemmerhirt, vice president of Great Lakes Dredge & Dock Co., and I am appearing here today on behalf of the National Association of Dredging Contractors to present our view on H.R. 1198.

The National Association of Dredging Contractors supports H.R. 1198, a bill which would clarify the authority of the Coast Guard in establishing the so-called boundary lines between the inland waters and the high seas. We support the flexible provisions of H.R. 1198 (a) and (b) and believe this discretionary authority will enhance the Coast Guard's ability to administer the various statutes which involve the line of demarcation in a practical manner and allow the Coast Guard to take account of the variables of geography and weather which exist along the coastline of the United States.

The geography and weather differences which occur in various shoreline areas affected by H.R. 1198 are well known. In some areas the classic headlands approach would most likely be satisfactory whereas this approach would not meet the needs along the gulf coast. The shallow water inlets along the mid and southern eastern seaboard are very different from the rocky coast of New England. And in each of the different areas, weather variables compound the problem and need to be taken into account.

We strongly believe that the Coast Guard should have the authority to establish the boundary line at the location for each area which best meets the needs for navigational rules and safety factors for that area. H.R. 1198 accomplishes this.

We would, however, like to draw the attention of the committee to certain aspects of H.R. 1198(b). As written, H.R. 1198(b) sets the enforcement criteria for the various safety and related statutes which refer to the line or use it in conjunction with the term "seagoing." The exception to this pattern, and one which we feel should be corrected, is 46 U.S.C. 395, the Seagoing Barge Act. This statute does not contain any reference to the boundary line or definition of the term "seagoing barge".

In 46 U.S.C. 367, the Seagoing Motor Vessel Act, defines "seagoing vessels" as those which proceed outside the line established in 33 U.S.C. 151. Likewise, 46 U.S.C. 672c, a companion statute to the Seagoing Barge Act, defines "seagoing barge" in the same manner; however, this definition does not apply, as written, to 46 U.S.C. 395.

It appears to us that the more modern statutes which specify seagoing in terms of the boundary line make a strong case for a uniform approach to other statutes and call for a conformity to assure effective and fair application of the laws. In this regard we would propose an amendment to H.R. 1198(b) which we feel would allow for conformity in application for 46 U.S.C. 395.

The proposed text for all (b) would then read:

(b) The Secretary shall also establish appropriate identifiable lines dividing inland water of the United States from the high seas for the purpose of determining the applicability of each statute that refers to this section, or this section as amended, and for the purpose of defining the term "Seagoing" to determine the geographic limits of application for Sec. 10 of the Act of May 28, 1908, as amended (46 USC 395).

These lines may not be located more than 12 nautical miles seaward of the base line from which the territorial sea is measured. These lines may differ in position for the purpose of different statutes.

There appears to be valid reasons to authorize the Coast Guard to administer 46 U.S.C. 395 in a flexible manner depending upon location and area. In the very important matter of channel dredging and beach nourishment projects, the Congress has gone on record in this regard. We would like to draw your attention to House Conference Report No. 95-1490, dated August 14, 1978, for the Public Works for Water and Power Development and Energy Research Appropriations Bill, Fiscal Year 1979 (H.R. 12928). Page 53 of this report states:

The conferees note with deep concern the proposed implementation of regulations by the Coast Guard which could have a severe and drastic impact on essential dredging operations in the nation. The conferees direct the Chief of Engineers to advise the Coast Guard of the magnitude of the problem such implementation would cause and urge the Coast Guard to defer implementation of the provisions of 46 USC 395 and U.S. Coast Guard Regulation 46 CFR 90-98, et al., implementing the Seagoing Barge Act until the full effects of the proposed action have been determined in consultation with the Corps, and the authorizing committees of the Congress consider legislation to resolve the issue.

Thus it seems clear to us that the amendment to H.R. 1198(b), which we have proposed has, in fact, been solicited by the Congress and would overcome the concern of Congress as expressed in House Report 95-1490. At the same time, the amendment would bring 46

U.S.C. 395, the Seagoing Barge Act, into enforcement conformity with other related statutes.

Let me thank you for the opportunity to present the views of the National Association of Dredging Contractors on this important legislation. I will be happy to respond to any questions you might have.

Mr. BIAGGI. I would like to thank you for your statements. I have only one question. Each of you seem to recommend amendments.

Mr. Lemmerhirt spells out an amendment. Have you seen a copy of the proposed amendment?

Mr. LEMMERHIRT. Yes, I have. I think it would be acceptable to our association.

Mr. BIAGGI. Captain Mayberry?

Captain MAYBERRY. The language of the amendment would be fine, but as Mr. Ballard pointed out, in the Chandeleur area, now we are talking about the seagoing barges, the line with only the 12-mile limit would fall still well inside the Chandeleur Islands and would not necessarily solve anything. Our statements were predicated on the thought that the baseline would be out on the islands where it is presently drawn and I am sure the committee is well aware of that impact now.

Thank you.

Mr. BIAGGI. Thank you.

Mr. Ballard?

Mr. BALLARD. Mr. Chairman, as far as the amendment that we have seen that has been drafted, we feel it covers it by amending the Seagoing Barge Act. Again, we have got the problem: Where is the 12 miles going to be measured from?

Mr. BIAGGI. With relation to Chandeleur, Captain Mayberry, your concern would be expressed in the committee's report.

Captain MAYBERRY. Thank you.

Mr. BIAGGI. Mr. Treen?

Mr. TREEN. One of my problems is that I am not sure, perhaps committee counsel can help me on this, as to what the baseline would be under this, that we are dealing with here. I assume it is not the same baseline as that established by the Supreme Court in its various decisions for the purpose of determining State entitlement to mineral production.

But let me ask that question. Would the baseline we are talking about here be the same as established by this decision or would it be different?

Mr. BIAGGI. That has no bearing on these considerations.

Mr. TREEN. It is a different baseline.

With respect to Chandeleur Islands, where would the baseline be? The baseline would be the Chandeleur Island itself? So for the purposes of both sections (a) and (b), it would go 3 miles out from Chandeleur Island? Is that what you are suggesting?

Mr. CASSANI. Right now, the territorial sea is measured from Chandeleur Island. If we go 12 miles out, it would also go 12 miles in. The way the State Department likes to measure our territorial sea, we would also go from the keys inside Chandeleur. If you go in from Chandeleur and out from the mainland, you would have no pocket using 12 miles.

Mr. TREEN. We have some pockets in the high seas area. Is that because of the 3 miles?

Mr. CASSANI. Yes.

Mr. TREEN. If we go 12 miles, we think we would get the entire area covered; is that correct?

Mr. CASSANI. Yes, sir.

Mr. BIAGGI. Would you yield?

Mr. TREEN. Yes.

Mr. BIAGGI. On the same point, I would like to get a comment from the Coast Guard.

Admiral DEWOLF. Yes; you would measure both directions. You would encompass the whole area. I would agree with the comment which Mr. Cassani made.

Mr. BIAGGI. Thank you.

Mr. TREEN. Do I understand each of you are agreeable to section (b) of the bill which establishes a 12-nautical-mile limit? I understand we are out 25 miles in some areas. Take Southwest Pass. You are out some 25 miles. The Coast Guard has indicated the Coast Guard would be constrained to bring that line in.

Are you willing to have that line brought in, say you supported the bill and made no exception to the 12-mile limit for all lines other than the Colregs lines?

Captain Mayberry, would you take a crack at that? I want to know. You have no objection to bringing it in 12 miles?

Captain MAYBERRY. Let me attempt to answer your question. We felt we could live with the 12 miles. We were not optimistic enough to believe that the line could stay where it was. We would support the retention of the line where it presently is offshore. We don't know how many people would be directly affected. We felt the industry could live within the 12 miles and on those particular exceptions where certain equipment was absolutely needed past the 12 miles, we are aware that the Coast Guard has certain other regulations and traditions which would permit the one-time permit to go out there.

How much we would use that, I have no idea, sir. Desirably, the line could stay very well where it presently is because the industry has not worked past that line. We may encounter some problems, but we were not that inclined to think that we should seek a difference from the way the bill was drafted.

Mr. TREEN. Let me ask Mr. Ballard. You say these barges you are mostly concerned with are designed to operate in less than 20 feet of water; is that correct?

Mr. BALLARD. Yes, sir.

Mr. TREEN. If you go beyond 12 nautical miles of the baseline, are you getting into deeper depths than 20 feet?

Mr. BALLARD. We are assuming that the present line of demarcation for the Colregs is going to stay the way it is, the way it is drawn today?

Mr. TREEN. No. You mean the one in the proposed rule or the one we had to start with?

Mr. BALLARD. The one that went into effect in 1977. What we have done, we have looked at this bill, Mr. Treen, in view of the line that was established by the Coast Guard in 1977 and measured 20 miles from there. If the Coast Guard says it is going to suck this

line back on the beach everywhere and not follow the outward islands, then we have got a problem.

Mr. TREEN. The line of demarcation established in 1977 hugs the coast in some places. If you measure out 12 miles from that line, it is your testimony that that might not be sufficient in certain cases to take care of your seagoing barge problem?

Mr. BALLARD. Along the coast of Louisiana and the way we have traditionally worked, to the best we can determine, if you measure from the high water mark along the coast of Louisiana which is essentially where they measure, keep in mind they go across the heads of Terrebonne Bay and Chapel Bay. They do not follow the coastlines. If you measure 12 lines from the inland side of the bays, it is not going to get it.

Mr. TREEN. You have got a problem?

Mr. BALLARD. Yes.

Mr. TREEN. Where is the line established?

Mr. BALLARD. The 1977 line is drawn across the outward mouth of these bays. There are certain islands. If there are no lights, they will go to the buoy markers. We have looked at the chart and looked where we worked along the coast of Louisiana, for that matter Texas, from where the line is drawn today, the 1977 line, and there are relatively few areas that we could work anyway outside of 12 miles.

I think this whole exception is that there are a few areas in Eugene Island that are further than 12 miles out. In situations like that, based upon the water depths, it is going to get where you are not going to drill them or you will get some kind of waiver. There are some reefs out there. We will cross that bridge when we get to it.

To my knowledge, it is the only area that we couldn't get into or that we could that we would be outside, 12 miles out of, assume you measure the 12 miles from where the 1977 Colregs are now.

Mr. TREEN. Thank you.

Mr. BIAGGI. Mr. Breaux?

Mr. BREAU. Thank you.

I have no questions.

Mr. BIAGGI. Thank you, gentlemen.

Our next witness is Vernon Behrhorst.

STATEMENT OF VERNON BEHRHORST, ADVISER TO THE GOVERNOR OF LOUISIANA ON BOUNDARIES AND RELATED MATTERS.

Mr. BEHRHORST. Mr. Chairman, my name is Vernon Behrhorst. I have a written statement. It was typed this morning, but there are several errors in it, and I would like permission to submit my statement for the record by tomorrow morning.

Mr. BIAGGI. You have until July 6 to do it. Your statement will be included in the record at the conclusion of your oral testimony.

Mr. BEHRHORST. I am not going to read it because much of what I have said has already been covered. I am here, first of all, representing the State of Louisiana. I serve on the executive committee of the Gulf Intracoastal Canal Association. They asked me to submit a statement on their behalf as well.

Mr. Dale Miller, president of the Gulf Intracoastal Canal Association was here earlier, but he had to leave. He asked me for the record to say that he concurs with the remarks that I make in my official statement.

Up here are three charts of the Louisiana-Mississippi coast. Two of them have been referred to already, and what I wish to do is not to repeat. I am not going to touch on the Mississippi Sound because that has been pretty well covered. I want to mention Chandeleur Sound and there is a third problem area not touched upon at the mouth of the Mississippi River. I would say this with regard to the proposed legislation that with regard to the 12-mile limitation from the baseline, you have heard the industry spokesmen make their presentation, and I would defer to their judgment on that.

However, I can say this, that I cannot support Admiral DeWolf's statement that you resolve the issue in the bays behind the barrier island of the Mississippi-Louisiana coast and Chandeleur Sound, that we move the demarcation line back to the baseline of the mainland for international rules of the road. We cannot support that. We feel that this would cause extreme hardship upon small vessel operators. We concur that there may be a slight contravention of the convention if the Colregs demarcation line be left on the outside of the barrier island and Chandeleur Islands and then direct straight segments to the mouth of the Mississippi River.

I want to make a brief comment. To my mind, the problems lay entirely east to the Southwest Pass. To the west, there are no islands because the closing lines across the bay are established by the organization which you may not be aware of. It is an ad hoc interagency committee on U.S. boundary determinations. For Captain Mayberry's benefit, I don't think he has had to deal with it. It is an interagency committee of State, justice, and national ocean survey. We have never been able to find any statutory or regulatory status of this. It is solely an ad hoc committee which wields a considerable amount of authority. They are the ones that draw the line showing the territorial sea and the contiguous zones on these charts. If you would permit me to go to the charts, here is one that I would like to call to your attention. Here is the mouth of the Mississippi River. Here is the Southwest Pass. Here is South Pass. The current delimitation line connects the sea buoy here at Southwest Pass and the one here at South Pass.

Mr. TREEN. Whose limitation?

Mr. BEHRHORST. Colregs delimitation line.

Mr. TREEN. OK.

Mr. BEHRHORST. It runs across here [indicating]. Within here, we have what is known as East Bay oil field, probably the greatest concentration of offshore oil and gas production platforms in the United States—all these black dots.

There are roughly 150 platforms in this area. The three miles out from baseline comes out across here and passes right through the midst of this very congested field.

Are we going to move the line in amongst this congested area where you already have very difficult problems of navigation? This is the third area which I wish to call to your attention. There are four of these isolated areas in here, so you change the rules of the road eight times going through the GIWW.

Here is Chandeleur Sound. The line comes up here along the outer edge and along to Ship Island. Here we have these large areas which have been designated as international waters. Here is the 3-mile line. If we went into the 3-mile line here and ignored it out here, then you have the international rules of the road and there are many shrimpers and oyster luggers and there is geological evidence that this will become a major area of hydrocarbon exploration. Both of these have been covered. I want to call that to your attention. There is more about it in my formal presentation.

Mr. BIAGGI. You are talking about something in the midst of those oil platforms. Have you been living with those conditions during the last couple of years?

Mr. BEHRHORST. No, sir. The current line separating inland rules of the road and international rules of the road connects the buoy here at Southwest Pass across to the buoy at South Pass. We have a straight line across here.

Mr. BIAGGI. Counsel advises me that that is not an accurate statement.

Mr. BEHRHORST. Sir?

Mr. BIAGGI. Counsel?

Mr. TREEN. That 1977 line cuts through the field. The question is since it was established in 1977, you have been living with it for a couple of years.

Mr. BEHRHORST. The latest charts I have still show it going across here.

Mr. TREEN. Maybe you can clear this up.

Mr. CASSANI. You have the old charts. The new charts removed that line. That used to be the old line of demarcation prior to July 17, 1977. The new line, I guess Admiral DeWolf can comment on.

Mr. BEHRHORST. Yes.

Admiral DEWOLF. The line the gentleman referred to is a line that existed previously and is indicated on the chart that I have here. Now the demarcation line for rules of the road are here [indicating].

Mr. BEHRHORST. I will withdraw that. This is the latest chart which was indicated to me.

Mr. BIAGGI. We have a condition where in the past several years a line runs in the midst of your oil platforms. We have not heard any objection.

Mr. BREAU. Mr. Chairman?

Mr. BIAGGI. Mr. Breau.

Mr. BREAU. Maybe the industry could comment. The line has been there. Are they actually changing their operation, or are they operating under one set of rules and ignoring the line?

Could someone from the industry panel comment on that?

Mr. BALLARD. We have worked extensively in East Bay always inside. The water is too deep between the passes. We cannot get outside except with an offshore rig. Inside, that is called the South Pass area.

As this gentleman has testified, that is a very prolific area. The only kind of rig you can get in is an inland barge rig. The water is too shallow to get tugs in big enough to handle it. But the only thing you can get in is a barge rig.

Remember, I told you, we only work in these so-called outside areas about 5 percent of the time. The rest of the time we are in the marsh. Since the Colregs line has been redrawn in 1977, my company has not been in the East Bay area. We have been in the East Bay area many, many times over the past 20 years, but we have not had occasion to go back in. Now a certain operator is saying we want you to go. The Coast Guard is telling us the only way we can go back to East Bay is if we get the rig inspected.

Mr. TREEN. Does anyone else from Industry want to comment on this? This is your chance.

Mr. BIAGGI. May I ask Mr. Ballard a question?

What is so bad about having the rig inspected?

Mr. BALLARD. Well, Mr. Biaggi, when you make seagoing barge requirements, these are for inland water operators. They are just not built, they are not being built today to operate on the high seas. They don't go there that often. You primarily work right up on the beach. As far as the construction is concerned, it would be just prohibitive.

Mr. BIAGGI. They are not built for high seas. They are built for inland operation?

Mr. BALLARD. That is correct.

Mr. BIAGGI. And on occasion, you take them out to high seas?

Mr. BALLARD. In areas like this, in water no deeper than 20 feet. In most instances, the water is eight to ten to fifteen feet at the most. It is a very limited application. You have got a total of about 130 of these things, and the only ones you are concerned with really are about 30 of them which the so-called posted barge and of the posted barges, as near as we can tell, that fleet only operates there five percent or less of the time of its total life. The rest of the time it is in the marsh, in the swamp.

Mr. BIAGGI. Because of the line of demarcation, the Coast Guard could not permit that because it is built for inland operation; whereas in practical application, I am told it is 20 to 30 feet deep—

Mr. BALLARD. Maximum of 20 feet deep.

Mr. BIAGGI. In a maximum of 20 feet deep, you could operate safely?

Mr. BALLARD. Yes because of where you normally operate, you operate right up on the beach anyway.

Mr. BIAGGI. So, Mr. Ballard, the only thing that causes the problem as far as this area is concerned is the line of demarcation. The Coast Guard would be mandated by virtue of that to make the inspection?

Mr. BALLARD. This, as I understand it, Mr. Chairman, is a position they are taking only for barges because, as you know, they are—

Mr. BIAGGI. In light of what you are saying, I understand the problem. It is a problem that should be corrected from a common-sense point.

Does not our bill permit you to go out 12 miles and does that not help?

Mr. BALLARD. Yes, sir. The amendment you proposed would do that. What we are saying is that barges should not be singled out from any kind of vessel wherever you want to draw the line.

Mr. BIAGGI. It is an obvious area that needs attention. If the proposed amendment corrects it, it pleases us.

Mr. BALLARD. Thank you.

Mr. BIAGGI. Mr. Breaux?

Mr. BREAU. Do you have a recommendation on the bill as drafted or not?

Mr. BEHRHORST. As far as Chandeleur and Mississippi Sound, of course, we feel the present circumstance situation of course where inland rules of the road prevail for operational safety and economic point of view would be the way to go. As I said earlier, the proposal was made to move the international rules of the road line along the mainland, excluding the islands. I think it would work a hardship on our people. We would be ready to talk about the licensing requirements, and so forth.

Mr. BREAU. Thank you.

Mr. BIAGGI. Thank you, Mr. Behrhorst.

[The following was received for the record:]

STATEMENT OF VERNON BEHRHORST

I am Vernon Behrhorst, Advisor to the Governor of Louisiana on boundaries and related matters. I also serve on the executive committee of the GICA which is also concerned about some of the problems that will arise if H.R. 1198 is passed in its present form. Representatives of the inland towing industry, the offshore oil and gas operators, and the dredging industry are also expressing their concern about this legislation. As you are aware, all three of these groups play an important role in the marine industry of Louisiana. Therefore, we are especially concerned about their ability to operate at minimum cost, efficiently, and above all, safely. Also keep in mind that there are thousands of commercial and sports fishermen, shrimpers and oyster luggers in particular, who have never had any need to venture beyond the COLREGS Demarcation Line. Many of them will be adversely affected by this legislation.

I will address the issue of safety of operations and suggest several amendments which will reduce some of the hazards of vessel operation that will be created, if the bill being considered, is enacted as written. Before making my recommendations for amending the bill under consideration, I wish to call the Subcommittee's attention to the information, already displayed on our official nautical charts issued by the National Ocean Survey. The Line of Demarcation is shown along with other information. Within the past several years NOS has added lines delimiting the territorial sea and the contiguous zone on our nautical charts. These lines were added reluctantly by NOS at the insistence of the State Department and the Ad Hoc Committee on U.S. Coastline Delimitation. For the record I must state that the States of Louisiana and Mississippi have both protested the depicting of these lines on NOS charts.

There is a mass of information on these charts. The pending bill would add more and possibly confusing information. The bill authorizes the Secretary of Transportation to establish lines, different lines. I emphasize different, "for the purpose of determining the applicability of each statute that refers to this section or this section, as amended." I do not pretend to be an authority on marine law, but I have been told four different lines can be drawn on our nautical charts "not more than twelve nautical miles seaward of the baseline from which the territorial sea is measured" as provided for in section (b) of the bill. This plus the relocation of the line of demarcation within three miles of the base line for determining which rules of the road shall prevail, can add a lot of clutter, and potentially confusing and hazardous information, to our nautical charts.

The Department of Transportation, and more specifically the Coast Guard may have good reasons for having different lines of demarcation for rules of the road and for other purposes such as load-line requirements. However, I recommend that the Subcommittee give serious consideration to amending the pending legislation to avoid an undesirable multiplicity of lines delimiting different jurisdictions.

I wish to call your attention to the NOS nautical charts that depict three different situations that may cause confusion, and possibly collisions, and unnecessary liability litigation among vessel operators. They are charts 11361, 11363, and 11373.

Chart 11361 covers the mouth of the Mississippi River which includes South and Southwest Passes, the two major channels leading to the ports of New Orleans and Baton Rouge, in which is located one of the largest concentrations of marine traffic in the world. However, East Bay, which is located between South and Southwest Passes, is very shallow water and most of the vessels operating within the East Bay oilfield are primarily inland type equipment. From a practical point of view, it is therefore unrealistic to have the line of demarcation moved to within 3 miles of the baseline in an area which is characteristically inland water. A straight line of demarcation connecting the buoys at South and Southwest Passes certainly is more appropriate as it better describes the areas which are inland in nature on the one side and open sea on the other.

Chart 11363 covers Chandeleur and Breton Sounds, which are historically inland waters of the State of Louisiana. A cursory examination of this chart clearly illustrates the problems facing vessel operators in determining which rules of the road are to be followed. The baseline which has been approved by the Ad Hoc Committee on U.S. Coastline Delimitation follows the low water lines of the mainland and isolated islands, and straight-line closure lines between points of land and islands. How can a vessel operator with any degree of certainty know which rules of the road prevail within this complex of bays and sounds? This is a major shrimping and oyster area, and based upon geological information may become in the near future a very active area of hydrocarbon exploration.

Chart 11373 includes most of Mississippi Sound. On this chart, four isolated areas of international waters are depicted as prescribed by the Ad Hoc Committee on U.S. Boundary Delimitation. These lie between the barrier island which includes Ship Island, Horn Island, and Petit Bois Island but are recognized as sovereign territory by the State of Mississippi. Moreover, the Gulf Intracoastal Waterway traverses the Mississippi Sound, and in its entirety is an inland waterway. If the legislation being considered is enacted as written, barge tows traversing the GIWW between New Orleans and Mobile will have to pass through eight different changes of navigation rules, from inland rules to international rules and vice versa. If the Secretary should rule that load-line and other rules shall be applicable to the three mile requirements, we can only imagine the problems that may have to be faced.

These are examples of what we face as practical matters in Louisiana. It is quite obvious that we have a great concern for matters affecting navigation. This is apparent by the membership of this Committee including two Louisiana Congressmen, John Breaux and David Treen. I have consulted with them on this matter and they agree that the issues I have mentioned need to be accommodated. We request that the legislation under consideration be amended to permit the Secretary of the Department of Transportation to designate that inland rules of the road shall be followed within the areas I have mentioned and similar areas along the coast of other states. This is essential if vessels are to operate efficiently, economically, and above all safely.

Mr. BIAGGI. Admiral DeWolf, I understand the administration is preparing a proposal for unification of the rules of the road. Could you give us something on this?

Admiral DEWOLF. I am not prepared to furnish it. I thought of the question before I left, but I did not have time to search out the record.

Mr. BIAGGI. Thank you very much, Admiral.

Thank you, gentlemen.

We are adjourned at this time.

[The following was submitted for the record:]

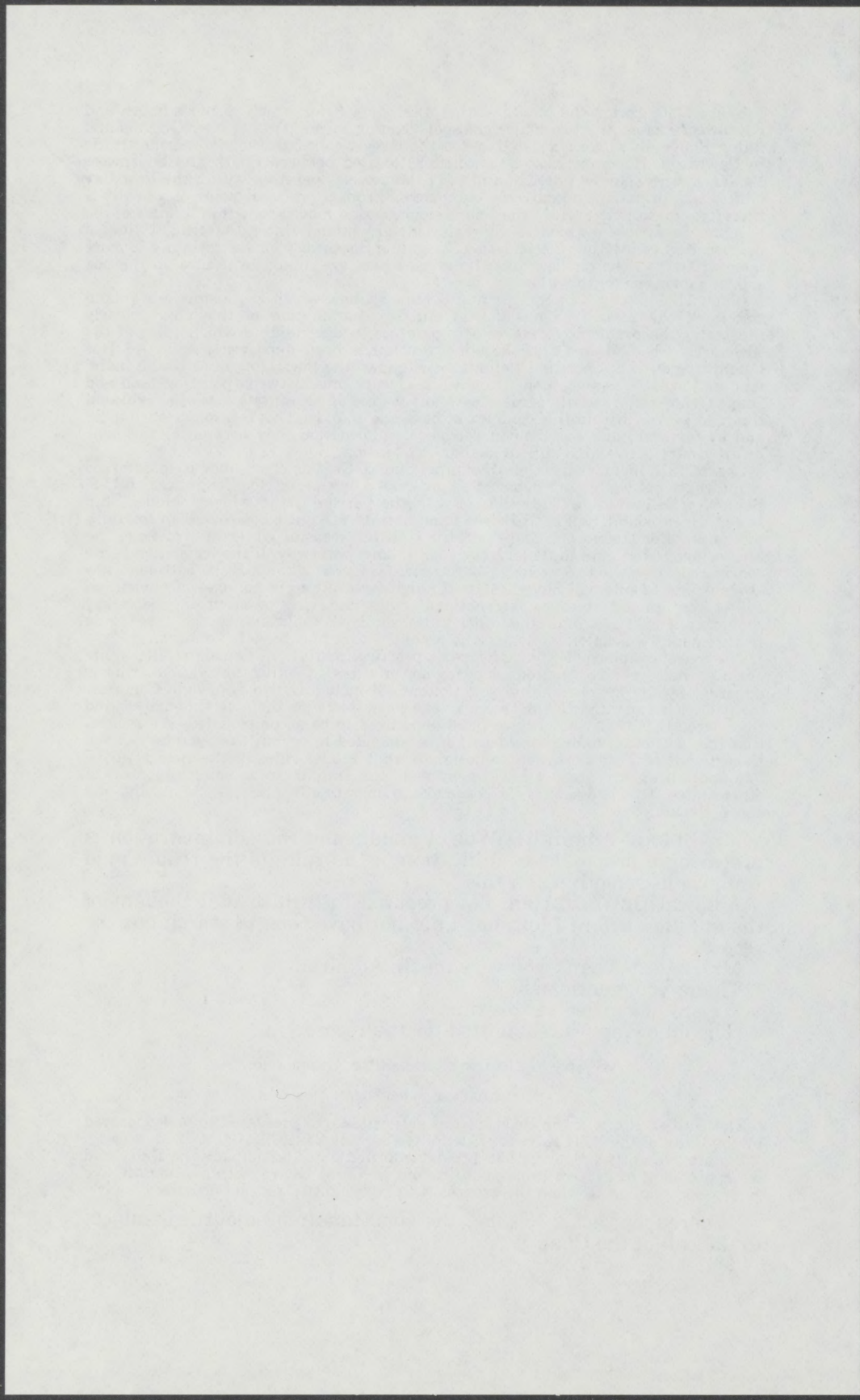
STATUS OF RULES OF THE ROAD UNIFICATION

LEGISLATIVE PROPOSAL

The Unified Rules of the Road have been drafted and presented to and approved by the Rules of the Road Advisory Committee on May 23, 1979.

We are presently preparing background information to accompany the Rules and we expect our legislative proposal to be out of Coast Guard within a month. We cannot speculate as to when the proposal will be submitted to the Congress.

[Whereupon, at 12:15 p.m., the subcommittee adjourned, subject to the call of the Chair.]



VESSEL DOCUMENTATION—TONNAGE MEASUREMENT

WEDNESDAY, JUNE 20, 1979

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, D.C.

Pursuant to notice, the subcommittee met at 10:10 a.m., in room 2176, Rayburn House Office Building, Hon. Mario Biaggi, chairman of the subcommittee, presiding.

Present: Representatives Biaggi, Bonker, Stack, and Evans.

Staff present: Ricardo Ratti, Rudy Cassani, John Bruce, and Cyndy Wilkinson.

Mr. BIAGGI. The Subcommittee on Coast Guard and Navigation is meeting today to consider two legislative proposals that are intended to simplify and clarify two areas of the maritime safety laws. Their enactment should reduce the burdens on the affected industry and make the laws easier to administer, enforce, and understand.

As you are all aware, the subcommittee has had under review a series of vintage statutory enactments as part of a continuing effort to simplify existing maritime safety laws and procedures whenever it is practicable to do so. This is part of an ongoing program, the result of a number of extensive oversight hearings during prior Congresses.

[The bills and departmental reports follow:]

96TH CONGRESS
1ST SESSION

H. R. 1196

To revise and improve the laws relating to the documentation of vessels, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 22, 1979

Mr. BIAGGI introduced the following bill; which was referred to the Committee on Merchant Marine and Fisheries

A BILL

To revise and improve the laws relating to the documentation of vessels, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "Vessel Documentation
4 Act".

5 SEC. 2. DEFINITIONS.

6 As used in this Act—

7 (1) "documented vessel" means a vessel for which
8 a certificate of documentation has been issued under
9 this Act; and

1 (2) "Secretary" means the Secretary of the de-
2 partment in which the Coast Guard is operating.

3 **SEC. 3. PORTS OF DOCUMENTATION.**

4 The Secretary shall designate ports of documentation in
5 the United States where vessels may be documented and in-
6 struments affecting title to, or interest in, documented vessels
7 may be recorded. The Secretary shall specify the geographic
8 area to be served by each designated port, and he may dis-
9 continue, relocate, or designate additional ports of documen-
10 tation.

11 **SEC. 4. VESSELS ELIGIBLE FOR DOCUMENTATION.**

12 Any vessel of at least five net tons that is not registered
13 under the laws of a foreign country is eligible for documenta-
14 tion if it is owned by—

15 (1) an individual who is a citizen of the United
16 States;

17 (2) a partnership or association whose members
18 are all citizens of the United States;

19 (3) a corporation created under the laws of the
20 United States, or any State, territory, or possession
21 thereof, or of the District of Columbia, or the Com-
22 monwealth of Puerto Rico; whose president or other
23 chief executive officer and chairman of its board of di-
24 rectors are citizens of the United States and no more

1 of its directors are noncitizens than a minority of the
2 number necessary to constitute a quorum;

3 (4) the United States Government; or

4 (5) the government of any State, territory, or pos-
5 session of the United States, the District of Columbia,
6 or the Commonwealth of Puerto Rico.

7 **SEC. 5. HOME PORTS.**

8 (a) With the approval of the Secretary and subject to
9 such regulations as he may prescribe, the port of documenta-
10 tion selected by an owner for the documentation of his vessel
11 shall be the vessel's home port.

12 (b) Once a vessel's home port has been fixed as provided
13 in subsection (a), it may not be changed without the approval
14 of the Secretary, subject to such regulations as he may pre-
15 scribe.

16 **SEC. 6. NAME OF VESSEL.**

17 (a) At the time of application for initial documentation of
18 a vessel, the owner shall provide a name for the vessel. Sub-
19 ject to the approval of the Secretary and upon the issuance of
20 a certificate of documentation, that name shall become the
21 vessel's name of record.

22 (b) Once a vessel's name of record has been fixed as
23 provided in subsection (a), it shall not be changed without the
24 approval of the Secretary, subject to such regulations as he
25 may prescribe.

1 (c) The Secretary may prescribe a reasonable fee for
2 changing a documented vessel's name of record.

3 SEC. 7. CERTIFICATE OF DOCUMENTATION: APPLICATION; IS-
4 SUANCE; FORM; EXHIBITION.

5 (a) Upon application by the owner of any vessel eligible
6 for documentation, the Secretary shall issue a certificate of
7 documentation of a type specified in section 10, 11, 12, 13,
8 or 14 of this Act.

9 (b) The Secretary may prescribe the form of, the manner
10 of filing, and the information to be contained in, applications
11 for certificates of documentation.

12 (c) Each certificate of documentation shall—

13 (1) contain the name, the home port, and a de-
14 scription of the vessel for which it is issued;

15 (2) identify its owner; and

16 (3) be in the form and contain any additional in-
17 formation prescribed by the Secretary.

18 (d) The Secretary shall, by regulation, prescribe proce-
19 dures to insure the integrity of, and the accuracy of informa-
20 tion contained in, certificates of documentation issued under
21 this Act.

22 (e) The owner and the master of each documented
23 vessel shall make the vessel's certificate of documentation
24 available for examination as the law may require or as the
25 Secretary may prescribe.

1 SEC. 8. NUMBERS; LETTERS; IDENTIFICATION MARKINGS.

2 (a) The Secretary shall maintain a numbering system for
3 the identification of documented vessels and shall assign a
4 number to each documented vessel.

5 (b) The Secretary may maintain a system of signal let-
6 ters for documented vessels.

7 (c) The owner of each documented vessel shall affix to
8 the vessel and maintain in the manner prescribed by the Sec-
9 retary the number assigned under subsection (a) and any
10 other identification markings the Secretary may prescribe.

11 SEC. 9. PURPOSE OF DOCUMENTATION.

12 A certificate of documentation issued under this Act
13 is—

14 (1) conclusive evidence of nationality for interna-
15 tional purposes, but not in any proceeding conducted
16 under the laws of the United States;

17 (2) except in the case of a pleasure vessel license,
18 conclusive evidence of qualification to be employed in a
19 specified trade; and

20 (3) not conclusive evidence of ownership in any
21 proceeding in which ownership is in issue.

22 SEC. 10. CERTIFICATE OF DOCUMENTATION; REGISTRY.

23 (a) A registry may be issued for any vessel that is eligi-
24 ble for documentation.

1 (b) A vessel for which a registry is issued may be em-
2 ployed in foreign trade or trade with Guam, American
3 Samoa, Wake, Midway, or Kingman Reef.

4 (c) Upon application of the owner of any vessel that
5 qualifies for a coastwise license under section 11 of this Act,
6 a Great Lakes license under section 12 of this Act, or a
7 fishery license under section 13 of this Act, the Secretary
8 may issue a registry appropriately endorsed authorizing the
9 vessel to be employed in the coastwise trade, the Great
10 Lakes trade, or the fisheries, as the case may be.

11 SEC. 11. CERTIFICATE OF DOCUMENTATION: COASTWISE LI-
12 CENSE.

13 (a) A coastwise license or, as provided in section 10(c)
14 of this Act, an appropriately endorsed registry, may be issued
15 for any vessel that—

16 (1) is eligible for documentation;

17 (2) was built in the United States; and

18 (3) qualifies under laws of the United States to be
19 employed in the coastwise trade.

20 (b) A vessel for which a coastwise license or an appro-
21 priately endorsed registry is issued may, subject to the laws
22 of the United States regulating those trades, be employed
23 in—

24 (1) the coastwise trade; and

25 (2) the fisheries.

1 SEC. 12. CERTIFICATE OF DOCUMENTATION: GREAT LAKES LI-
2 CENSE.

3 (a) A Great Lakes license, or, as provided in section
4 10(c) of this Act, an appropriately endorsed registry, may be
5 issued for any vessel that—

6 (1) is eligible for documentation;

7 (2) was built in the United States; and

8 (3) qualifies under the laws of the United States
9 to be employed in the coastwise trade.

10 (b) A vessel for which a Great Lakes license or an ap-
11 propriately endorsed registry is issued may, on the Great
12 Lakes and their tributary and connecting waters and subject
13 to the laws of the United States regulating those trades, be
14 employed in—

15 (1) the coastwise trade;

16 (2) trade with Canada; and

17 (3) the fisheries.

18 SEC. 13. CERTIFICATE OF DOCUMENTATION: FISHERY LI-
19 CENSE.

20 (a) A fishery license, or, as provided in section 10(c) of
21 this Act, an appropriately endorsed registry, may be issued
22 for any vessel that—

23 (1) is eligible for documentation;

24 (2) was built in the United States; and

25 (3) qualifies under the laws of the United States
26 to be employed in the fisheries.

1 (b) Subject to the laws of the United States regulating
2 the fisheries, a vessel for which a fishery license or an appro-
3 priately endorsed registry is issued may be employed in that
4 trade.

5 SEC. 14. CERTIFICATE OF DOCUMENTATION: PLEASURE
6 VESSEL LICENSE.

7 (a) A pleasure vessel license may be issued for any
8 vessel that—

9 (1) is eligible for documentation, and

10 (2) is to be used exclusively for pleasure.

11 (b) A licensed pleasure vessel may proceed from or to
12 any port of the United States and to any foreign port without
13 entering or clearing with the United States Customs Service.

14 (c) Notwithstanding any other law, the Secretary may
15 prescribe reasonable fees for issuing, renewing, or replacing a
16 pleasure vessel license; or for providing any other service in
17 connection with a pleasure vessel license. The fees shall be
18 based on the costs of the service provided.

19 SEC. 15. VESSEL LIMITED TO TRADE COVERED BY CERTIFI-
20 CATE OF DOCUMENTATION; EXEMPTIONS; PEN-
21 ALTY.

22 (a) A documented vessel may not be employed in any
23 trade other than a trade covered by the certificate of docu-
24 mentation issued for that vessel. A documented pleasure
25 vessel may not be used for purposes other than pleasure.

1 However, any certificate of documentation may, under regu-
2 lations prescribed by the Secretary, be exchanged for any
3 other type of certificate of documentation, or appropriately
4 endorsed for any trade, for which the vessel qualifies.

5 (b) A non-self-propelled vessel which is qualified to be
6 employed in the coastwise trade may, without being docu-
7 mented, be employed in that trade within a harbor or on the
8 rivers or inland lakes of the United States, or on the internal
9 waters or canals of any State.

10 (c) Whenever a documented vessel is employed in a
11 trade that is not covered by the certificate of documentation
12 issued for that vessel or a documented pleasure vessel is used
13 other than for pleasure, the vessel, together with its equip-
14 ment, is liable to seizure and forfeiture to the United States.

15 (d) A documented vessel may not be placed under the
16 command of a person other than a citizen of the United
17 States.

18 **SEC. 16. FALSIFICATION IN DOCUMENTATION: FRAUDULENT**
19 **USE OF DOCUMENT; PENALTY.**

20 (a) Whenever the owner of a vessel knowingly falsifies
21 or conceals a material fact, or makes a false statement or
22 representation in connection with the documentation of his
23 vessel under this Act, in addition to any other penalty pro-
24 vided by law, that vessel, together with its equipment, is
25 liable to seizure by and forfeiture to the United States.

1 (b) Whenever a certificate of documentation is knowing-
2 ly and fraudulently used for any vessel, that vessel, together
3 with its equipment, is liable to seizure by and forfeiture to the
4 United States.

5 **SEC. 17. CERTIFICATION OF DOCUMENTATION: TERMINATION**
6 **OF VALIDITY.**

7 (a) A certificate of documentation is invalid if the vessel
8 for which it is issued—

9 (1) no longer meets the requirements of this Act
10 and the regulations prescribed thereunder pertaining to
11 that certificate of documentation; or

12 (2) is placed under the command of a person who
13 is not a citizen of the United States.

14 (b) Except as provided by subsection (c) of section 30 of
15 the Act of June 5, 1920, as amended (46 U.S.C. 961(a)), an
16 invalid certificate of documentation shall be surrendered in
17 accordance with regulations prescribed by the Secretary.

18 **SEC. 18. VESSELS PROCURED OUTSIDE THE UNITED STATES.**

19 (a) The Secretary and the Secretary of State, acting
20 jointly, may provide for the issuance of an appropriate docu-
21 ment for any vessel procured outside the United States that
22 meets the ownership requirements of section 4 of this Act.

23 (b) Subject to any limitations the Secretary may pre-
24 scribe, a vessel for which an appropriate document is issued
25 under this section may proceed to the United States and

1 engage en route in the foreign trade or trade with Guam,
2 American Samoa, Wake, Midway, or Kingman Reef. Upon
3 the vessel's arrival in the United States the document shall
4 be surrendered in accordance with regulations prescribed by
5 the Secretary.

6 (c) A vessel for which a document is issued under this
7 section is subject to the jurisdiction and laws of the United
8 States. However, the Secretary may suspend for a period not
9 to exceed six months the application of any vessel inspection
10 law administered by him, or any regulation issued thereun-
11 der, if he considers the suspension to be in the public interest.

12 **SEC. 19. RECORDING OF UNITED STATES BUILT VESSELS.**

13 The Secretary may provide for the recording and certi-
14 fying of any information pertaining to vessels built in the
15 United States that he considers to be in the public interest.

16 **SEC. 20. REGISTRATION OF FUNNEL MARKS AND HOUSE**
17 **FLAGS.**

18 The Secretary shall provide for the registration of
19 funnel marks and house flags by owners of vessels.

20 **SEC. 21. LIST OF DOCUMENTED VESSELS.**

21 The Secretary shall publish periodically a list of all docu-
22 mented vessels together with any information pertaining to
23 them that he considers pertinent or useful.

24 **SEC. 22. REPORTS.**

25 To insure compliance with this Act and the laws gov-
26 erning the qualifications of vessels to engage in the coastwise

1 trade and the fisheries, the Secretary may require owners
2 and masters of documented vessels to submit reports in any
3 reasonable form and manner he may prescribe.

4 **SEC. 23. VIOLATIONS; PENALTY.**

5 (a) Any person who is found by the Secretary, after
6 notice and an opportunity for a hearing, to have violated this
7 Act or a regulation issued hereunder shall be liable to the
8 United States for a civil penalty, not to exceed \$500 for each
9 violation. Each day of a continuing violation shall constitute
10 a separate violation. The amount of the penalty shall be as-
11 sessed by the Secretary, or his designee, by written notice.
12 In determining the amount of the penalty, the Secretary shall
13 take into account the nature, circumstances, extent, and
14 gravity of the prohibited acts committed and, with respect to
15 the violator, the degree of culpability, any history of prior
16 offenses, ability to pay, and such other matters as justice may
17 require.

18 (b) The Secretary may compromise, modify, or remit,
19 with or without conditions, any civil penalty under this sec-
20 tion.

21 (c) If any person fails to pay an assessment of a civil
22 penalty after it has become final, the Secretary may refer the
23 matter to the Attorney General for collection in any appro-
24 priate district court of the United States.

25 **SEC. 24. DELEGATIONS AND REGULATIONS.**

26 The Secretary may—

1 (1) delegate, and authorize successive redelega-
2 tions of, any of the duties or powers conferred on him
3 by this Act; and

4 (2) prescribe regulations to carry out this Act.

5 SEC. 25. RELATED TERMS IN OTHER LAWS.

6 With respect to the documentation of a vessel whenever
7 used in any law, regulation, document ruling, or other official
8 act—

9 (1) “certificate of registry”, “registry”, and “reg-
10 ister” mean a registry as provided for in section 10 of
11 this Act;

12 (2) “license”, “enrollment and license”, “license
13 for the coastwise (or coasting) trade”, and “enrollment
14 and license for the coastwise (or coasting) trade” mean
15 a coastwise license as provided for in section 11 of this
16 Act;

17 (3) “enrollment and license to engage in the for-
18 eign and coastwise (or coasting) trade on the northern,
19 northeastern, and northwestern frontiers, otherwise
20 than by sea” means a Great Lakes license as provided
21 for in section 12 of this Act;

22 (4) “license for the fisheries” and “enrollment and
23 license for the fisheries” mean a fishery license as pro-
24 vided for in section 13 of this Act; and

25 (5) “yacht” means a pleasure vessel whether or
26 not documented.

1 SEC. 26. AMENDMENTS TO OTHER LAWS.

2 (a) Section 4131 of the Revised Statutes of the United
3 States, as amended (46 U.S.C. 221), is further amended to
4 read as follows: "Only a citizen of the United States may
5 serve as master, chief engineer, or officer in charge of a deck
6 watch or engineering watch on any vessel documented under
7 the laws of the United States. However, if a documented
8 vessel is deprived of the services of any officer, other than
9 the master, while on a foreign voyage and a vacancy is there-
10 by created, until the vessel's first return to a United States
11 port where a United States citizen replacement can be ob-
12 tained, a person who is not a citizen of the United States
13 may serve in— .

14 "(1) the vacancy; or

15 "(2) any vacancy resulting from the promotion of
16 another to fill the original vacancy."

17 (b) Section 4148(a) of the Revised Statutes of the
18 United States, as amended (46 U.S.C. 71(a)), is further
19 amended to read as follows:

20 "(a) Before a vessel is documented or recorded, or
21 where the application of a law of the United States to a
22 vessel is determined by its tonnage, the vessel shall be meas-
23 ured by the Secretary of the department in which the Coast
24 Guard is operating. The Secretary may, by regulation, pro-
25 vide for the temporary documentation of a vessel prior to the
26 measurement required by this section."

1 (c) Section 4311 of the Revised Statutes of the United
2 States, as amended (46 U.S.C. 251), is further amended by
3 striking the first sentence of subsection (a).

4 (d) Section 4320 of the Revised Statutes of the United
5 States, as amended (46 U.S.C. 262), is further amended
6 by—

7 (1) striking the word “licensed” in the first sen-
8 tence and inserting in lieu thereof the word “docu-
9 mented”; and

10 (2) striking the last sentence.

11 (e) Section 4377 of the Revised Statutes of the United
12 States, as amended (46 U.S.C. 325), is further amended by
13 striking the second sentence.

14 (f) Section 7 of the Act of June 19, 1886, as amended
15 (46 U.S.C. 319), is further amended by—

16 (1) striking the first sentence and inserting in lieu
17 thereof the following:

18 “Whenever a vessel, entitled to be documented and not
19 so documented, is employed in a trade for which certificates
20 of documentation are issued under the vessel documentation
21 laws, other than a trade covered by a registry, the vessel is
22 liable to a civil penalty of \$500 for each port at which it
23 arrives without the proper certificate of documentation, and if
24 it has on board any merchandise of foreign growth or manu-
25 facture (sea stores excepted), or any taxable domestic spirits,
26 wines, or other alcoholic liquors, on which the duties or taxes

1 have not been paid or secured to be paid, the vessel, together
 2 with its equipment and cargo, is liable to seizure and forfei-
 3 ture.”; and

4 (2) striking the last sentence.

5 (g) Section 2 of the Act of March 3, 1897, as amended
 6 (46 U.S.C. 660-1), is further amended by striking the second
 7 paragraph.

8 **SEC. 27. REPEALS.**

9 The following laws are repealed, except with respect to
 10 rights and duties that matured, penalties that were incurred,
 11 and proceedings that were begun before the effective date of
 12 this Act:

Revised statutes section	Revised statutes section	Revised statutes section
4132	4167	4315
4136	4168	4318
4137	4169	4319
4138	4170	4321
4139	4171	4322
4141	4174	4323
4142	4176	4324
4143	4177	4325
4144	4178	4326
4146	4179	4327
4147	4180	4328
4150	4182	4329
4155	4183	4330
4156	4187	4331
4157	4189	4333
4158	4190	4335
4159	4191	4337
4160	4214	4338
4161	4215	4339
4162	4217	4372
4163	4312	4384
4164	4313	4385
4166	4314	4495
.....		4498

Date	Chapter	Section	Statutes at large	
			Volume	Page
1874				
Apr. 17	106		18	30
1877				
Feb. 27	69	1 (only the part amending R.S. 4315, 4318, and 4319).	19	251
1879				
June 30	54		21	44
1884				
June 26	121	21	23	58
July 5	221	4	23	119
1886				
June 19	421	6	24	81
1891				
Feb. 21	250	1	26	765
1895				
Jan. 16	24	2, 4, 5	28	624, 625
1897				
Jan. 20	67	1, 2	29	491, 492
1902				
June 24	1155	1, 2	32	398, 399
1905				
Mar. 3	1457	9	33	1032
1906				
Apr. 24	1865	1, 2	34	136
1908				
May 28	212	7	35	426
1912				
Feb. 29	47		37	70
July 9	220		37	189
Aug. 24	390	5 (only the part amending R.S. 4132).	37	562
1914				
Aug. 18	256	1	38	698
1915				
Feb. 24	57		38	812
Mar. 4	172	1	38	1193
Do.....	184	5	38	1218
1920				
Feb. 19	83	1, 2, 3	41	436, 437
1925				
Feb. 16	235	1	43	947
1935				
Aug. 5	438	310	49	528
1936				
May 20	434		49	1367
1938				
May 24	265		52	437
1939				
May 31	159		53	794
Do.....	160		53	795
June 2	168		53	798
1961				
Aug. 17	Public Law 87-157		75	392
1965				
Sept. 29	Public Law 89-219	10	79	892

1 SEC. 28. EFFECTIVE DATE.

2 This Act shall be effective on the first day of the twelfth
3 month following the month in which enacted.

○



GENERAL COUNSEL OF THE
UNITED STATES DEPARTMENT OF COMMERCE
Washington, D.C. 20230

20 JUN 1979

Honorable John M. Murphy
Chairman, Committee on Merchant
Marine and Fisheries
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

You have requested the views of the Department of Commerce on
H.R. 1196, a bill --

"To revise and improve the laws relating to the
documentation of vessels, and for other purposes."

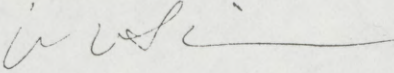
The purpose of H.R. 1196 is to establish a coherent and rational body of law for vessel documentation and to permit the efficient administration of the program by the introduction of modern procedures and business techniques. H.R. 1196 would achieve the rationalization of this body of law by restating, in a concise and conceptually ordered arrangement, the various types of documentation available and the purposes and objectives of each as extracted from existing law. In addition, the bill would incorporate and similarly address other closely related subjects and their policies, such as home ports and vessel names. To achieve the goal of a more efficient administration of the documentation program, H.R. 1196 would repeal the excessively detailed and long outdated administrative provisions contained in existing law. In their place the bill would establish the general authority of the Secretary of the Department in which the Coast Guard is operating to prescribe regulations for the administration of the new documentation program, and for other purposes.

The Department of Commerce, while supporting the aim of more efficient administration, defers to the views of the United States Coast Guard and any other agencies more directly involved since H.R. 1196 does not directly affect or involve programs of this Department.

- 2 -

We have been advised by the Office of Management and Budget that there would be no objection to the submission of our report to the Congress from the standpoint of the Administration's program.

Sincerely,



William V. Skidmore
Acting General Counsel



OFFICE OF THE SECRETARY OF TRANSPORTATION

WASHINGTON, D.C. 20590

JUN 29 1979

GENERAL COUNSEL

Honorable John M. Murphy
Chairman
Committee on Merchant Marine
and Fisheries
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

Reference is made to your request for the views of the Department of Transportation concerning H.R. 1196, a bill

"To revise and improve the laws relating to the documentation of vessels, and for other purposes."

The bill, which is similar to legislative proposals prepared by the Department and transmitted to previous Congresses, represents a significant reform of the laws related to vessel documentation. The Department of Transportation supports this initiative.

H.R. 1196, the "Vessel Documentation Act", revises and modernizes the body of law controlling administrative procedures by which vessels are identified as vessels of the United States and certified to engage in specific trades. The bill does not change the basic policies of the present law. It eliminates certain archaic provisions which have been a hindrance to efficient administration of the documentation program or which unnecessarily add to the cost of operating merchant vessels.

The bill also provides for a charge to document pleasure vessels. Under present law, Federal documentation of pleasure vessels, which enhances financing of sales, property security, and identification in foreign ports, is a free service available only to large vessels. Smaller pleasure vessels cannot enjoy the benefits of documentation and must submit to a state numbering program for which a fee is charged. Since documentation clearly benefits a pleasure vessel, there is little justification for relieving a pleasure vessel owner of the costs of the documentation service. This provision will eliminate this discrimination in present law.



It's a law we
can live with.

While the Department supports H.R. 1196, we have several recommendations which would reduce potential ambiguities in the bill as presently drafted.

Section 15, limits a vessel to the "trade" covered by the document and sets severe penalties for violation of the limitations. However, nowhere are the particular "trades" delineated.

Section 20, provides for the registration of funnel marks and house flags. Thought should be given to deletion of this section to further reduce the procedures associated with documentation.

Subsection (a) of section 26 (at page 14, line 8), which amends section 4131 of the Revised Statutes of the United States, should be changed from "any officer" to "any such officer". This precision in language is needed since there may well be other "officers" aboard ship than those specified in the first sentence of the section.

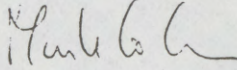
Subsection (f) of section 26 needs clarification (at page 15, line 21) of the words "other than a trade covered by a registry". Under subsection (c) of section 10 (page 6), a register may be endorsed in the appropriate case for coastwise trade, the fishery, etc. This could lead to a contentious claim that "coastwise trade", for example, is a trade "covered by a registry." It would be better to obviate this by stating the exception thus: "other than a trade covered by a registry under subsection 10(b) of this Act."

Finally, the "Commonwealth of the Northern Mariana Islands" should be added, in the appropriate places, to Sec. 4(3) and (5), Sec. 10(b), and Sec. 18(b). This addition is necessary because the Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America (Public Law 94-241; 90 Stat. 263) brings the Northern Marianas within the ambit of United States law.

The extensive listing of laws to be repealed is an indication of the patchwork of existing laws which intertwine themselves throughout Title 46 of the United States Code and is a further indication of the difficulty in administering the present statutory documentation program.

The Office of Management and Budget advises that from the standpoint of the Administration's program there is no objection to the submission of this report for the consideration of the Committee.

Sincerely,

A handwritten signature in dark ink, appearing to read "Linda Heller Kamm". The signature is fluid and cursive, with the first name "Linda" being the most prominent.

for Linda Heller Kamm



DEPARTMENT OF THE TREASURY
OFFICE OF THE GENERAL COUNSEL
WASHINGTON, D.C. 20220

JUN 21 1979

Dear Mr. Chairman:

This is in reply to your request for the views of the Department of the Treasury on H.R. 1196, "To revise and improve the laws relating to documentation of vessels, and for other purposes."

The proposed legislation would amend the statutes relating to the documentation of vessels by restating in a concise and orderly arrangement the purposes and objectives of vessel documentation. The overly detailed provisions of many of the statutes would be repealed. Within specific statutory guidelines, responsibility and authority for the administration of the vessel documentation system would be delegated to the Secretary of the department in which the Coast Guard is operating.

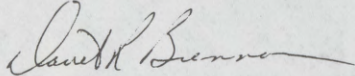
Documentation functions were formerly performed by the Commissioner of Customs. Treasury Department Order No. 167-81, effective February 24, 1967 (32 F.R. 2463), transferred responsibility for those functions to the Commandant, United States Coast Guard. By the Department of Transportation Act, 30 Stat. 931-950 (46 U.S.C. 1651-1659), the United States Coast Guard was transferred from this Department to the Department of Transportation. However, certain provisions of the bill relate to functions which remain the responsibility of the Customs Service, such as enforcement of certain provisions of the documentation statutes on behalf of the Coast Guard and administration of the coastwise laws and related laws.

The Department expects no unusual difficulties in carrying out its responsibilities if the bill is enacted. The Department, therefore, has no objection to the enactment of H.R. 1196.

-2-

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

Sincerely yours,



Deputy General Counsel

The Honorable
John M. Murphy, Chairman
Committee on Merchant Marine
and Fisheries
House of Representatives
Washington, D. C. 20515

96TH CONGRESS
1ST SESSION

H. R. 1197

To simplify the tonnage measurement of certain vessels.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 22, 1979

Mr. BIAGGI introduced the following bill; which was referred to the Committee on Merchant Marine and Fisheries

A BILL

To simplify the tonnage measurement of certain vessels.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "Tonnage Measurement
4 Simplification Act".

5 SEC. 2. Section 4148 of the Revised Statutes of the
6 United States, as amended (46 U.S.C. 71) is further amended
7 to read as follows:

8 "SEC. 4148. (a) Before a vessel is documented or re-
9 corded, or where the application of a law of the United States
10 to a vessel is determined by its tonnage, the vessel shall be

I—E●

1 measured by the Secretary of the department in which the
2 Coast Guard is operating. The Secretary may, by regulation,
3 provide for the temporary documentation of a vessel prior to
4 the measurement required by this section.

5 “(b) A vessel, other than a vessel used exclusively for
6 pleasure, shall be measured as prescribed in sections 4150,
7 4151, and 4153 of the Revised Statutes of the United States,
8 as amended, and to the extent applicable, as prescribed in the
9 Act of September 29, 1965, as amended (79 Stat. 891) if—

10 “(1) it engages or intends to engage in an interna-
11 tional voyage by sea; or

12 “(2) it is at least twenty-four meters in length and
13 is self-propelled.

14 “(c) A vessel not required to be measured under subsec-
15 tion (b) of this section may be so measured if requested by its
16 owner. A vessel not measured under subsection (b) shall be
17 assigned gross and net tonnages by the Secretary which are
18 functions of its length, breadth, depth, and other dimensions,
19 including appropriate coefficients. The Secretary shall pre-
20 scribe the manner in which dimensions are measured and
21 which coefficients are appropriate. The resulting gross ton-
22 nages, taken as a group, shall reasonably reflect the relative
23 internal volumes of the vessels measured, and the resulting
24 net tonnages shall be in approximately the same ratios to
25 corresponding gross tonnages as are the net and gross ton-

1 nages of comparable vessels measured under subsection (b) of
2 this section. In accordance with regulations issued under this
3 subsection, the Secretary may determine the gross and net
4 tonnages of a vessel which is representative of a designated
5 class, model, or type and may assign those gross and net
6 tonnages to other vessels of the same class, model, or type.

7 “(d) A vessel shall be remeasured if—

8 “(1) the vessel is altered or the use of its space is
9 changed so that its gross or net tonnage is affected;

10 “(2) having been measured under subsection (c) of
11 this section, the vessel becomes, by use or alteration,
12 subject to subsection (b) of this section; or

13 “(3) having been measured under subsection (b) of
14 this section and not required to be so measured, the
15 owner requests that the vessel be measured under sub-
16 section (c) of this section.

17 Except as provided in this subsection, a vessel that has been
18 measured is not required to be remeasured to obtain another
19 document.”

20 SEC. 3. A vessel measured prior to the effective date of
21 this Act under sections 4150, 4151, and 4153 of the Revised
22 Statutes of the United States, as amended, is considered as
23 having been measured under section 4148(b) of the Revised
24 Statutes of the United States, as amended by this Act.

25 SEC. 4. This Act is effective on the first day of the
26 twelfth month following the month in which enacted.



GENERAL COUNSEL OF THE
DEPARTMENT OF COMMERCE
Washington, D.C. 20230

20 JUN 1979

Honorable John M. Murphy
Chairman, Committee on Merchant
Marine and Fisheries
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

You have requested the views of the Department of Commerce on
H.R. 1197, a bill -

"To simplify the tonnage measurement of certain
vessels."

This bill would limit the application of the existing complicated tonnage measurement system to a vessel not used exclusively for pleasure that either (1) engages or intends to engage in an international voyage by sea; or (2) is at least 24 meters (79 feet) in length and is self-propelled. The owner of a vessel not subject to the detailed measuring requirement may obtain such measurement by request. The Secretary of Transportation (Secretary) would be authorized to provide, by regulation, for the temporary documentation of a vessel prior to required measurement.

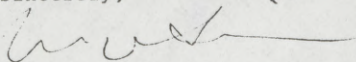
The bill further provides that where a vessel is not measured and is entitled to be documented under the laws of the United States, it shall be assigned gross and net tonnages by the Secretary which are functions of its length, breadth, depth and other dimensions. In accordance with regulations, the Secretary would be authorized to determine the gross and net tonnages of a vessel which are representative of a designated class, model or type and to assign those gross and net tonnages to other vessels of the same class, model or type. The bill also includes standards for determining whether the remeasurement of a vessel is required.

The Department of Commerce has no objection to the enactment of
H.R. 1197.

- 2 -

We have been advised by the Office of Management and Budget that there would be no objection to the submission of our report to the Congress from the standpoint of the Administration's program.

Sincerely,

A handwritten signature in dark ink, appearing to read 'W. Skidmore', with a long horizontal flourish extending to the right.

William V. Skidmore
Acting General Counsel



GENERAL COUNSEL

OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

JUN 29 1979

Honorable John M. Murphy
Chairman, Committee on Merchant
Marine and Fisheries
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

This is in reply to your request for the views of the Department of Transportation on H.R. 1197, a bill

"To simplify the tonnage measurement of certain vessels."

The Department of Transportation supports the intent of this legislation and supports its enactment with the following proposed changes.

The reference in section 2 (at page 2, lines 6-7) to "sections 4150, 4151, and 4153" should be changed to refer to "sections 4151 and 4153" since section 4150 of the Revised Statutes does not in fact "prescribe" a measurement procedure. Section 4150 only requires that a vessel's document have an entry reflecting the end figure arrived at through the process of measurement (see 46 U.S.C. 74).

We suggest that the first sentence of subsection 4148(a), as it would be amended by section 2 of the bill, should refer to vessels "documented or recorded under the laws of the United States, ..." (new language emphasized). The last sentence of the subsection should be deleted. R.S. 4498 as amended, prohibits documentation of a vessel before a certificate of inspection is issued. There are in the inspection laws tonnage classifications for determining if a vessel must be inspected and, if it must, which of various standards apply.

Further, the first sentence of subsection 4148(b), as it would be amended by section 2 of the bill, should be changed to read "A vessel required to be measured under subsection (a) of this section, other than...." The statutory reference should also read "Public Law 89-219, September 29, 1965, 79 Stat. 891 (46 U.S.C. 83-83k)."



Subsection 4148(c), as it would be amended by section 2 of the bill, should be changed to read "A vessel required to be measured under subsection (a) but not required to be measured by the method provided by [under] subsection (b) of this section may be so measured [if requested by its owners] upon the owner's request. A vessel required to be measured under subsection (a) which is not measured by the method provided by [under] subsection (b) shall be assigned gross and net tonnages by the Secretary which are functions of appropriate coefficients and its length, breadth, depth, and other dimensions[,] . [including appropriate coefficients.] The Secretary...." (deleted language bracketed).

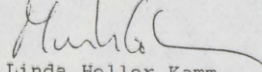
We recommend, also, that thought be given to inclusion in subsection 4148(d), as it would be amended by section 2 of the bill, of an additional condition of remeasurement under a claim of error. Language such as "(4) having been measured under this Section, its owner or the Secretary of the Department in which the Coast Guard is operating alleges error in its tonnage.", would be appropriate. This would provide a potential avenue for settlement to both the government and the vessel owner should a dispute arise.

Enactment of this proposal will allow the Coast Guard to obtain acceptable commercial vessel tonnage measurements for the purpose of documentation and recordation of certain vessels in about one-eighth of the time now required to perform that task. The owner of a commercial vessel not required to have its tonnage measured under the more detailed requirements would be given the option to request that type of measurement if he prefers. To ensure the continued acceptability of United States documents by foreign Governments, it remains necessary to require the more detailed system of tonnage measurement for those vessels which make international voyages.

This legislative proposal will not result in additional expense to the Federal Government. Minor savings are anticipated in future years from the reduction in personnel resources needed to measure the tonnage of vessels using the simplified system.

The Office of Management and Budget advises that from the standpoint of the Administration's program there is no objection to the submission of this report for consideration of the Committee.

Sincerely,

A handwritten signature in dark ink, appearing to read "Linda Heller Kamm", with a long horizontal flourish extending to the right.

Linda Heller Kamm



RECEIVED
REP. JOHN M. MURPHY

DEPARTMENT OF THE TREASURY
OFFICE OF THE GENERAL COUNSEL
WASHINGTON, D.C. 20220

JUN 2 1973

DOC # _____ REC # _____

AIDE: _____

CATS: _____

PARA: _____

JUN 21 1979

Dear Mr. Chairman:

This is in reply to your request for the views of the Department of the Treasury on H.R. 1197, "To simplify the tonnage measurement of certain vessels."

The bill would amend the statute relating to the admeasurement of vessels to provide for an optional simplified system of admeasurement of commercial vessels which are less than 24 meters in length and self-propelled and which do not engage in international voyages by sea regardless of size, if not self-propelled.

Vessel admeasurement functions were formerly performed by the Commissioner of Customs. Treasury Department Order No. 167-81, effective February 24, 1967 (32 F.R. 2463), transferred responsibility for those functions to the Commandant, United States Coast Guard. By the Department of Transportation Act, 80 Stat. 931-950 (49 U.S.C. 1651-1659), the Coast Guard was transferred from this Department to the Department of Transportation.

In view of the fact that the admeasurement of vessels is no longer a concern of this Department, the Department of the Treasury offers no comment as to the need for or the merits of the bill and defers to the views of the Department of Transportation.

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

Sincerely yours,

David R. Brennan
Deputy General Counsel

The Honorable
John M. Murphy, Chairman
Committee on Merchant Marine
and Fisheries
House of Representatives
Washington, D. C. 20515

Mr. BIAGGI. The first bill we will consider is H.R. 1196, to revise and improve the laws related to the documentation of vessels. The authority for documentation of vessels originated during the First Congress, when its significance as an important adjunct to your expanding waterborne commerce was recognized.

Documentation is the administrative procedure by which a vessel is registered or licensed as a vessel of the United States for identification purposes and certified as authorized to engage in a specific trade. The rights, privileges, and immunities of the documenting country and the comity attendant with international law and diplomacy follow the vessel wherever it may be on the high seas or in the territorial seas of another nation.

Since the Nation's birth, a patchwork of archaic, complex, and inconsistent laws has developed in an effort to meet the various changing conditions and expanding needs of our waterborne commerce. These laws are not only confusing to the mariner but also difficult to administer and enforce.

Since 1967, when the Coast Guard assumed responsibility for documentations from the Customs Service, it has made a number of minor improvements in its procedures. However, it soon realized that major improvements were barred by existing archaic statutes.

This legislative initiative is part of a continuing action to provide the Coast Guard with the authority it needs to administer a vessel documentation program using modern procedures and up-to-date business techniques in order to meet the changing needs of the oceangoing, offshore and inland commercial marine industries and the mushrooming recreational boating industry.

This bill would eliminate the restrictive administrative details contained in existing laws and would delegate responsibility and regulatory authority within specific guidelines.

The second bill we will consider is H.R. 1197, a bill to simplify the tonnage measurement of small commercial vessels.

The authority for the measurement of vessels likewise originated during the early formative years of our Nation. It was readily recognized then that it was necessary to measure a vessel to determine its tonnage, based on volume of space in a vessel, so that there could be a standard basis for the establishment of tolls, taxes, insurance premiums, port charges, and similar factors related to vessel operating costs.

Admeasurement law had its inception in 1792 and has remained substantially the same since then. However, the statutory authority that spells out the methods of admeasurement and the classes of vessels subject to these acts has been changed over the years.

The first major revision took place in 1864 and the procedures that were developed then remained relatively stable and consistent until the mid-1960's. However, in 1966, due to the phenomenal and continuing growth of the recreational boating, a need arose to simplify the complex and formal admeasurement procedures.

Public Law 89-476 was enacted in June 1966 to give the owner of a pleasure vessel the option of having his vessel admeasured under the formal procedures or under a new simplified procedure.

The simplified tonnage measurement procedure assigns a gross and net tonnage which are obtained from the produce of the vessel's length, breadth, and depth and an appropriate coefficient

based on hull form. This procedure has worked extremely well and this bill would extend it to other small vessels.

The bill would permit the assignment of gross and net tonnages to small commercial vessels by using either formal or simplified procedures at the option of the owner. The simplified procedure would be similar to that currently used for measuring pleasure vessels of all sizes. However, if the vessel engages or intends to engage in an international voyage by sea, it must use the formal admeasurement procedures.

This bill would permit the better utilization of the time and efforts of admeasurers, would reduce the number of persons required to admeasure the ever-growing number of small commercial vessels and would permit more timely measurement of the large commercial vessels.

I believe both of these bills are consistent with the President's desire for administrative reform, an objective I heartily support. Today, we are privileged to hear from the Coast Guard representing the administration and from various industry organizations.

I would now like to call on the Coast Guard to provide us with the administration's views and recommendations on the bill before us.

Before hearing from the Coast Guard, I request unanimous consent to place into the record of this hearing a statement from the Honorable John M. Murphy, chairman of the Committee on Merchant Marine and Fisheries, and a letter from the American Waterways Operators, Inc., dated June 18, 1979, in support of H.R. 1196 and H.R. 1197; and also a letter from the American Institute of Merchant Shipping, dated June 18, 1979, in support of H.R. 1196.

[The following was received for the record:]

STATEMENT OF HON. JOHN M. MURPHY, CHAIRMAN, HOUSE COMMITTEE ON
MERCHANT MARINE AND FISHERIES

I congratulate the Honorable Mario Biaggi, Chairman of the Subcommittee on Coast Guard and Navigation, on his sponsorship of the two bills that are the subject of today's subcommittee hearings. These bills, and the testimony to be taken today, continue the effort by the Subcommittee and the Committee on Merchant Marine and Fisheries to modernize and clarify existing statutory law that governs the maritime commerce of the United States. Much in this existing law was entered into the statute books very early in the history of our nation. It suffers from the passage of time and the evolution of technology, and greatly needs the careful and systematic review and tailored revisions being accomplished under auspices of this Subcommittee.

The Coast Guard, as the agency responsible for administering the documentation and admeasurement laws, welcomes, I am sure, the improvements that will result from enactment of H.R. 1196 and H.R. 1197. Certainly, the task of administration will be made simpler and more efficient and the service to the affected industry and boating public will be more effective. The industry itself, as well as private boat operators, should also be pleased with the prospects for modernizing these aspects of marine law, although I am sure that opinions may vary on the precise form the bills should take.

I commend Chairman Biaggi and the Subcommittee on Coast Guard and Navigation for continuing this important effort, and I assure the Chairman of prompt and expeditious handling when the time comes for the Full Committee to consider the bills.



THE AMERICAN WATERWAYS OPERATORS, INC.

WASHINGTON EXECUTIVE OFFICES

1600 WILSON BOULEVARD • SUITE 1101 • ARLINGTON, VIRGINIA 22209

JAMES B. POTTER, Jr. President

June 18, 1979

TELEPHONE: (703) 841-9300

Honorable Mario Biaggi, Chairman
 Subcommittee on Coast Guard and Navigation
 Committee on Merchant Marine and Fisheries
 Washington, DC 20510

Dear Mr. Chairman:

The American Waterways Operators, Inc., national trade association of the inland and coastal barge and towing industry, is pleased to have the opportunity to submit this letter for the record of your Committee's hearings scheduled for June 20, 1979 on H.R. 1196 and H.R. 1197.

I am pleased to inform you that at the June 8, 1979 meeting of our Association's Board of Directors your bills H.R. 1196, "a bill to revise and improve laws related to the documentation of vessels...", and H.R. 1197, "a bill to simplify the tonnage measurement of certain vessels," were unanimously voted support by the Directors.

With personal best wishes, I remain,

Sincerely yours,

James B. Potter Jr.
 James B. Potter, Jr.
 President

a
i
m
s

AMERICAN INSTITUTE OF MERCHANT SHIPPING

1625 K Street, N.W. Suite 1000, Washington, D.C. 20006
Phone: 202/783 6440

June 18, 1979

The Honorable Mario Biaggi
Chairman, Subcommittee on
Coast Guard and Navigation
U. S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

Thank you for requesting the views of the American Institute of Merchant Shipping on H.R. 1196, legislation to revise and improve the laws relating to the documentation of vessels. The American Institute of Merchant Shipping (AIMS) is a national trade association whose 27 member companies own, operate, or charter the vast majority of American-flag tank vessels in our nation's foreign and domestic trades.

We have supported in previous Congresses similar vessel documentation legislation to clarify and re-enact existing statutes and eliminate many of the detailed procedural requirements. Many of the existing laws affecting vessel documentation date back to the first Congress. During the ensuing 190 years, numerous amendments have been enacted, and many reorganizations and transfers of functions have occurred, but the basic statutory framework has remained intact.

As we understand it, the proposed bill would not make any radical changes to that framework, but rather would merely revise it to bring it into line with current, more expeditious practices. It would also enable the Department of Transportation and the United States Coast Guard to administer the vessel documentation program in a more effective manner. Consequently, we believe enactment of this bill will serve to facilitate trade and commerce by leading to a more efficient classification of vessels for regulation, pilotage, safety, fee assessment and taxation purposes. AIMS therefore supports the prompt enactment of H.R. 1196, the proposed Vessel Documentation Act.

Your consideration of our views on this bill is greatly appreciated.

Sincerely,
W. M. Benkert
W. M. Benkert
President

Mr. BIAGGI. Our first witness is Rear Adm. Henry H. Bell, Chief, Office of Merchant Marine Safety, U.S. Coast Guard.

STATEMENT OF REAR ADM. HENRY H. BELL, CHIEF, OFFICE OF MERCHANT MARINE SAFETY, U.S. COAST GUARD, DEPARTMENT OF TRANSPORTATION, ACCOMPANIED BY JOSEPH YGLESIAS, CHIEF, MERCHANT VESSEL DOCUMENTATION DIVISION, OFFICE OF MERCHANT MARINE SAFETY, U.S. COAST GUARD, DEPARTMENT OF TRANSPORTATION

Admiral BELL. I am Rear Adm. Henry H. Bell, Chief of the Office of Merchant Marine Safety of the Coast Guard. I have with me today Mr. Joseph Yglesias, who is Chief of our Merchant Vessel Documentation Division in the Office of Merchant Marine Safety.

I have a statement, sir, I would be pleased to read.

I am pleased to appear before you today to discuss H.R. 1196, a bill to revise and improve the laws relating to the documentation of vessels, and H.R. 1197, a bill to simplify the tonnage measurement of certain vessels.

The first system of documentation of vessels was established on September 1, 1789, by the 11th Act of the First Congress. A little more than 3 years later, more comprehensive laws were enacted. One of these was an act concerning the registering and recording of ships or vessels, approved December 31, 1792, and another was an act for enrolling and licensing ships or vessels to be employed in the coasting trade and fisheries, and for the regulating of same, approved February 18, 1793. Significant parts of the early vessel documentation laws continue in effect. Succeeding Congresses periodically amended and added to these early laws in an effort to meet the changing conditions and the expanding needs of waterborne commerce. It has resulted in a patchwork of archaic, complex and inconsistent laws, difficult to understand and administer.

The Coast Guard has been responsible for vessel documentation since February 24, 1967. Since then, the procedures and transactions involved in the process have been examined with a view to modernization, improvement, and cost reduction. Some minor improvements have been made, but major improvements are barred by existing statutes.

H.R. 1196 extracts from existing laws and restates in a concise and orderly arrangement the purposes and objectives of vessel documentation and the related substantive policies. It would eliminate the restrictive administrative details of existing laws. It would enable the Coast Guard to apply up to date business practices to better meet the changing needs of the maritime industry and the public.

I would like, sir, to point out a few of the problems under existing laws and outline some of the procedural improvements that could be made under H.R. 1196.

Under the present law, each time a vessel changes trade, such as from foreign trade to coasting trade, it is necessary that a new document be issued. This is time consuming for both the government and the vessel owner. Under this bill, adoption of a standard format to replace the current six separate forms of documents is possible. A trade change would be accomplished by endorsement of

the outstanding document rather than by surrender of that document and issuance of a new one.

Existing law requires that the document of each licensed vessel be presented at a documentation office each year for renewal. This requires that the document be removed from the vessel where it belongs. It requires that the master or vessel agent visit the documentation office or, if handled by mail, it results in not having the document onboard the vessel during the renewal period. H.R. 1196 permits flexibility in that the annual renewal could be accomplished through a validation by mail without removing the document from the vessel.

With certain exceptions, present law requires that a new master, taking command of a vessel, have his name endorsed on the vessel document. This requires removal of the document from the vessel and involves frequent trips to a documentation office. If a master takes command at a location where there is no qualified official to make the endorsement or the vessel is on a foreign voyage, the endorsement may not be accomplished until long after the fact. This bill would permit adoption of a more efficient method of providing for changes of master without requiring removal of the document from the vessel.

In several instances, existing law requires documents and other forms to contain specific information that is unnecessary, repetitive, or in some cases where exact language is required, archaic. H.R. 1196 leaves the content and wording of forms to the administering agency' thereby providing the flexibility to meet the changing needs and to permit modern bookkeeping and processing procedures. However, notwithstanding the possible improvements afforded by H.R. 1196, the provisions of the Ship Mortgage Act, 1920, as amended, will continue to bar modernization of some recordkeeping requirements.

In addition to the procedural improvements and increased flexibility, this bill, in its brevity, arrangement and simplicity, will allow a general understanding of documentation not possible under the present maze of laws.

While H.R. 1196 provides for extensive revision of antiquated procedures, it does not change the purpose and objective of vessel documentation or the related substantive policies. For example, it is obviously not the purpose of the bill to make any change in the law or policies governing pilotage. Therefore, because of its significance to the matter of pilotage, the distinction between registered vessels, those engaged in the foreign trade, and licensed vessels, those engaged in the coasting trade, is carefully preserved in the bill.

I want to bring, sir, to your attention two other bills now pending that will be affected by enactment of H.R. 1196. One of these is S. 917, a bill to authorize appropriations to carry out the Fishery Conservation and Management Act of 1976. S. 917 would amend section 4311 of the revised statutes, as amended (46 U.S.C. 251) by adding a new paragraph. The new paragraph is meaningful only when read with the first sentence of subsection (a) of section 4311. H.R. 1196 amends section 4311 by striking the first sentence of subsection (a).

The other bill that will be affected by enactment of H.R. 1196 is H.R. 1906, a bill to limit and require an annual report with respect to the level of foreign investment in the U.S. fishing industry and for other purposes. H.R. 1906 seeks to amend section 4132 of the revised statutes, as amended (46 U.S.C. 11). H.R. 1196 repeals this section 4132.

Closely related to H.R. 1196 is H.R. 1197, a bill to simplify the tonnage measurement of certain vessels. Before a vessel is documented or recorded, and to ascertain the applicability of many other laws, the vessel must be measured to determine gross and net tonnage. The formulas and procedures used for measuring the gross and net tonnage of a vessel, other than a pleasure craft, are spelled out in great detail in law. Special simplified formulas and procedures for measuring a pleasure vessel are given in section 69.17, title 46, Code of Federal Regulations pursuant to section 71(b), title 46, United States Code. Authority is now being sought to apply simplified measurement to certain commercial vessels.

A measured or register ton for a vessel admeasured according to the detailed system is equivalent to 100 cubic feet or 2.83 cubic meters. In very general terms, the gross tonnage of such a vessel is comprised of the volume of the hull bounded by the under surface of the upper deck and the inboard lines of the side and bottom frames, or lining on those frames, plus the volume of closed in deck structures available for cargo and stores or for the berthing or accommodation of passengers or crew.

In equally general terms, the net tonnage may be defined as the gross tonnage minus the sum of the volumes of spaces needed to propel and navigate the vessel and to house the personnel who work it.

Gross and net tonnages are used to determine the applicability of international conventions, treaties, laws and regulations. They are also used as bases for computing limits of liability, tonnage duties, port and pilotage fees, and similar charges. To facilitate movement of vessels in trade, governments of maritime nations have adopted similar rules for tonnage measurement of vessels. While the United States is not party to a convention on tonnage measurements of ships, it is a party to a number of bilateral treaties of friendship, trade and navigation, providing for mutual recognition of vessel tonnages based on application of similar tonnage measurement rules.

I think it is interesting to point out here that the measurement law adopted by our First Congress provided simple formulas for ascertaining the tonnage of double decked vessels and single decked vessels. The length and the breadth, for example, were the only dimensions used together with a coefficient to determine the tonnage of double decked vessels.

Since the formula did not take the depth into account, owners, in order to minimize charges against tonnage, had vessels built which were very narrow and very deep with greater volumes than indicated by the taxable tonnages. The British considered the vessels unsafe. So, in 1854, they adopted a system to integrate the volume precisely. We adopted a similar system in 1864. The other principal maritime countries also have the same or similar systems.

Ironically, however, the law adopting the more precise formula, amendments to these laws and administrative interpretations, have made it possible to build even larger vessels with lower tonnage than had been possible under the previous laws.

The mathematical formulas which have been in use by maritime nations for more than 100 years to compute vessel tonnages are designed to give fairly precise volumes of spaces bounded either by plane or curved surfaces. To integrate the gross tonnage of a simple 30-foot-long vessel, more than 100 dimensions must be measured and used either to establish locations for taking other dimensions or as values to be used in computations. An experienced admeasurer would need 4 hours or more to measure such a vessel and compute its tonnages.

After deciding that tonnage charges and laws and regulations having tonnage boundaries are not generally applicable to pleasure vessels, the Congress enacted Public Law 89-476, approved on June 29, 1966. That law made it possible to measure, compute and certify the tonnage of a pleasure vessel in 30 minutes simply by making the gross tonnage a function of the product of the overall length, breadth, and depth, and an appropriate coefficient and by making the net tonnage a function of the gross tonnage and a similar appropriate coefficient. The coefficients vary according to whether or not the vessel hull is designed for sail and whether or not the vessel is propelled by machinery. We estimate that the maximum deviation from measured tonnage inherent in this simplified process is in the order of 10 percent.

Enactment of H.R. 1197 would enable the Coast Guard to apply similar, optional, simplified tonnage measurement to certain commercial vessels for which there would be no advantage in using the longer, more detailed method. It would include vessels that do not engage or do not intend to engage in international voyages by sea and are: (1) Not self-propelled; or (2) are self-propelled and are less than 24 meters, 79 feet, in length.

As in the case of simplified measurements of pleasure vessels, the object is to provide faster and more convenient service to owners and operators at less cost. We believe approximately 2,000 to 3,000 commercial vessels per year will use the simplified measurement procedure. In some cases, the simplified system would relieve owners of the onus of supplying special plans.

The motivation for simplification is better service at less cost. The bill provides for measurement under the detailed system upon the owner's request. Such a request would be likely where it is possible to gain advantage through special design features which could substantially reduce the tonnage from that measured under the simplified system. However, we believe that most of the vessels which qualify will be measured by the simplified system. Most barges and small vessels not engaged in international voyages are built without structural features designed to reduce tonnages, and the tonnages of these vessels are not likely to be higher under the proposed simplified system than the present detailed system.

This, sir, concludes my prepared statement. I will be happy to answer questions you may pose.

Mr. BIAGGI. Thank you, Admiral. We have a number of questions here, but in the light of the time, I will ask you one or two. We hope that you will provide the answers to the others for the record.

Admiral BELL. Yes, sir, I will be glad to.

Mr. STACK. If the gentleman would yield, Mr. Chairman, I would like to say that, unfortunately, I have to leave the hearing at this time because of a prior commitment, but I would like to associate myself with your very lucid and eloquent opening statement which certainly explains the necessity for this legislation.

I commend Admiral Bell for his informative testimony, and I would like to be included as a cosponsor of legislation, if you would consider that. Regretably, I will have to leave now.

Mr. BIAGGI. Thank you very much for your comments. I will be glad to have you cosponsor the legislation.

It has been indicated that enactment of this bill will provide for the introduction of modern procedures and business techniques. Do you have any information whether or not this bill will provide cost savings to the government, and if so, how much?

Admiral BELL. Sir, no, I don't have any figures. We have not studied it. As you are aware, sir, this bill has been around for some time. What we are faced with is a continual increase over the years of the number of transactions that take place under documentation. We have gone from roughly in 1967 from 103,000 transactions to 1978 we are up to 216,000.

Similar, just taking the documentation of pleasure vessels, the numbers similarly doubled. We are doing this with a constant number of employees, roughly the same number of documentation officers.

The saving we see is being able to continue to utilize roughly the same number of documentation officers to handle this volume of work. Right now, truthfully, sir, we are strapped. We are having a very difficult time keeping up with the workload, and we need the simplified procedures just to allow the current number of personnel we have to complete the work. That is all I can answer on that question, sir.

Mr. BIAGGI. Well, for the record, at least, I think you spelled it out. The answer can be extrapolated from what you said. You have not been able to determine how much you will save. But will it save money? Will it save the government money?

Admiral BELL. I will defer to Mr. Yglesias here, the gentleman who is responsible for providing this service.

Mr. YGLESIAS. I think the savings will be in terms of the future. The employees that are onboard now will be continued in the same numbers.

Mr. BIAGGI. But for this legislation, you would require additional employees to provide for the processing of increased workload?

Mr. YGLESIAS. Yes, sir, the workload has more than doubled in 10 years with no increase in employees.

Mr. BIAGGI. Will it provide any savings to the industry?

Mr. YGLESIAS. It may, but I do not think it would be substantial.

Mr. BIAGGI. Section 26(g) of the bill removes the requirements for hospital space on merchant vessels. This deletion seems somewhat unrelated to vessel documentation. In addition, it appears contrary to the ongoing policy of the standards of training and watch keep-

ing convention efforts to provide merchant seaman better medical care.

Has the amendment to section 660-1 of title 46 been discussed with organized maritime labor and can you provide any additional commentary?

Admiral BELL. Your question as to whether this has been discussed with organized labor, to my knowledge, it has not. Additional commentary. I think this requirement is an anomaly. How it got in a vessel documentation bill I am not sure because I am not privy to all the history of it.

We currently have, however, in all of our regulatory schemes for the various classes of vessels requirements for hospital spaces now. The deletion of the wordings in the documentation law will not, in fact, change anything as we now require on all classes of vessels, depending on the people onboard and the service, hospital spaces be provided or that provisions for isolation wards be provided in those cases where we have single stateroom units and the quarantine type arrangements are not necessary.

Very succinctly, sir, the wording here requiring hospital space has been overcome by regulatory efforts in the last years. It is not necessary and it will change nothing aboard ship by its deletion.

Mr. BIAGGI. Thank you, Admiral. These other questions will be given to you for response to the record.

Admiral BELL. Thank you, sir.

Mr. BIAGGI. Mr. Evans?

Mr. EVANS. My question is a very simple one. The limits which were chosen, can you tell me why those particular limits were chosen?

Admiral BELL. Sir, could you amplify your question please?

Mr. EVANS. In your testimony, you say enactment of H.R. 1197 will enable the Coast Guard to apply optional measurement procedures, and so forth. Maybe I better defer my question until later.

Mr. BIAGGI. Mr. Bruce?

Mr. BRUCE. One question, Admiral Bell. You do cite the fact that you do not include the Ship Mortgage Act. What is your intention with regard to that? Is that in the works? Is there some intention to incorporate that in this bill at a later time or other revision of the law?

Admiral BELL. No.

Mr. YGLESIAS. No; we did not want to bring extraneous laws in this bill. The primary thrust of what was said was that under the Ship Mortgage Act, it requires that instruments reported, such as bills of sale and mortgages, be recorded in books kept for that purpose.

What we are foreseeing is that under current practice it is very possible to microfiche, microfilm instead of keeping large numbers of bound books which take up space which prove pretty difficult to move around. This will be treated separately.

Mr. BRUCE. And it is fair to say that you do contemplate at some future date a revision to the Ship Mortgage Act by separate legislation?

Mr. YGLESIAS. Yes, sir.

Mr. BRUCE. Thank you.

Mr. BIAGGI. Thank you, gentlemen.

Mr. BIAGGI. Mr. Schwartz?

**STATEMENT OF RICHARD SCHWARTZ, EXECUTIVE DIRECTOR,
BOAT OWNERS ASSOCIATION OF THE UNITED STATES, ALEX-
ANDRIA, VA.**

Mr. SCHWARTZ. Mr. Chairman, it is a pleasure to again appear before you. I am Richard Schwartz, executive director of the Boat Owners Association of the United States. For some of you who may be unfamiliar with our organization, we are the only national, independent consumer organization of boat owners and represent a cross-section of this country's serious recreational boatmen. Incidentally, our largest State of membership is New York, a great water State. More than 65,000 boatowners have joined our organization from all 50 States.

On behalf of our membership and the more than 10 million boatowners across the country, I want to thank you for the opportunity to address the special interests which recreational boatowners have in the documentation process.

The overwhelming quantity of paper required by the current set of regulations demands that the boatowner wade through a very time-consuming circuitous route of obscure and outdated procedures. In the alternative, many boatowners hire an expert to complete the process—someone who makes a living guiding boatowners through a maze of red tape.

To the extent that this bill will lead to simplifying the process, providing for less duplication, fewer forms, less expense to the Federal Government, and a more timely issuance of a license—be it for commercial or for recreational purposes—BOAT/U.S. applauds the efforts of the committee members and the staff who worked on H.R. 1196. We are especially pleased that H.R. 1196 provides for the licensing of yachts for recreational purposes in contrast to earlier versions of this legislation which attempted to eliminate pleasure vessel licenses altogether.

I want to emphasize that pleasure boat documentation serves a wholly separate purpose than does commercial licensing, and I want to take a moment to reiterate the significance and importance of documentation for recreational vessels:

First, the Department of State confirms that U.S. documentation provides significant protection for a yacht traveling in international waters. With foreign cruising becoming commonplace, this aspect of documentation is becoming more important.

Documentation also simplifies the U.S. Customs requirements for pleasure vessels returning to U.S. ports.

And although documentation does not absolutely assure clear title, it is the best available method and the one which the banking community utilizes in the financing of boats. And by law, recording of a preferred ships mortgage requires documentation because of the degree of security provided by this government record.

And finally, documentation may facilitate the recovery of stolen vessels. With a permanent record of the vessel kept on file by the Federal Government and the Coast Guard district where the boat is registered or documented, a very effective network could be constructed to aid in the recovery and positive identification of stolen vessels.

We would like to comment on several specific provisions of H.R. 1196 and make a few suggestions. We also intend to participate by making additional detailed recommendations to the Secretary on procedures and forms when regulations are drafted to implement this legislation.

SECTION 4. VESSELS ELIGIBLE FOR DOCUMENTATION

The present language reserves the privilege of documentation for boats of at least 5 net tons. This means the boats under that size—fully capable of traveling in international waters; frequently involving the financing of large sums; and experiencing considerable theft—cannot avail themselves of the same benefits afforded a U.S. documented vessel. We suggest that the limit of 5 net tons be eliminated or lowered so that considerably more boats have the choice of documentation. Clearly, the fees and the time and effort involved in the process will act as a limiting factor on the number of boats electing to utilize documentation as an alternative to State registration.

SECTION 7. CERTIFICATE OF DOCUMENTATION: APPLICATION; ISSUANCE; FORM; EXHIBITION

Section 7 gives the Secretary the authority to—

* * * Prescribe the form of, the manner of filing and the information to be contained in applications for certificates of documentation.

BOAT/U.S. believes that regulations pertaining to commercial and pleasure vessel documentation by the very nature of the different interests involved and the different functions which documentation serves for each call for completely separate regulations and procedures. We believe it is possible to streamline the documentation of pleasure boats even beyond the improvements which this bill will provide to commercial licensing procedures. Therefore, we ask the committee to add specific language in the bill, either in section 7 or later in section 14, which acknowledges this difference and the need to implement separate simplified documentation procedures for pleasure boats. We would urge the Secretary in doing so to use the same initiative and imagination which gave us simplified tonnage measurements for yachts.

At the present time, the documentation process is geared to commercial vessels and is inappropriate, confusing and often requires meaningless data from the recreational boatowner. Other improvements could be made to strengthen the functions which documentation serves for the pleasure boatowner. For example, presently the boat description provided on a license issued to pleasure vessels is quite inadequate. Under the current terminology, two boats as different as a bargetype houseboat and a sloop might carry the same descriptive words. If one of the potential functions of documentation is a more effective identification and recovery of stolen vessels, a system of modern descriptive terms which categorize pleasure boats should be adopted and used on licenses. This system might simply make a general differentiation between sail and power as the primary propulsion system, and under each of these, have several different categories which more accurately de-

scribe the shape of the hull, the number of engines and, in the case of sailboats, the type of rigging used.

SECTION 14. CERTIFICATE OF DOCUMENTATION: PLEASURE VESSEL
LICENSE

Section 14(c) give the Secretary the authority to adopt a fee schedule for issuing, renewing, or replacing a pleasure vessel license. Boat owners have never opposed paying for the cost of voluntary documentation, providing the cost is a reflection of commonsense procedure, but we would oppose any fee structure which did not reflect the true value of the services performed by the Coast Guard. If our suggestion to differentiate procedures for the issuance of commercial and pleasure vessels is implemented, we estimate that the new procedure would result in savings to the Coast Guard and to the pleasure boat owner.

I would like to conclude by saying that BOAT/U.S. endorses this bill in the aggregate and believes it is an excellent vehicle for recodifying a myriad of diverse and antiquated laws. I am hopeful that our specific suggestions will be considered by the committee.

Mr. Chairman, thank you again for the opportunity to appear in person. We are prepared to assist the committee and staff in providing any additional assistance necessary to clarify what we believe are the special interests and needs of pleasure boat operators within the context of the documentation process.

Mr. BIAGGI. Thank you, Mr. Schwartz, for a supportive statement. You always make a comprehensive and detailed contribution to our hearings and we are grateful for it.

With respect to the 5-ton issue. There are pros and cons on that one. The bill that we are addressing ourselves to today is really one of modernizing procedure. The question is if we failed to take action on the 5-ton issue would you still support the bill?

Mr. SCHWARTZ. Very definitely.

Mr. BIAGGI. Thank you.

Mr. Evans?

Mr. EVANS. No questions.

Mr. BIAGGI. Thank you very much.

The meeting is adjourned.

[Whereupon, at 10:47 a.m., the subcommittee adjourned at the call of the Chair.]

ICEBREAKER PROGRAMS

THURSDAY, JUNE 28, 1979

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:32 a.m., in room 1334, Longworth House Office Building, Hon. Mario Biaggi (chairman of the subcommittee) presiding.

Present: Representatives Biaggi, de la Garza, and Oberstar.

Staff present: Ricardo A. Ratti, counsel; Rudy Cassani, counsel; John Bruce, minority counsel; and Cyndy Wilkinson, subcommittee clerk/research assistant.

Mr. BIAGGI. The meeting of the Subcommittee on Coast Guard and Navigation is called to order. The purpose of the meeting is the oversight hearings on Coast Guard icebreaker programs.

Today the Subcommittee on Coast Guard and Navigation is meeting to conduct oversight hearings on the general subject of Coast Guard icebreakers. We will focus on problems associated with the *Polar* class icebreaker program and on the ongoing program to develop an icebreaker that can operate effectively in shallow as well as deep water.

It has been stated that the *Polar* class icebreaker program has suffered a number of inadequacies in design, performance, delivery, and cost with the resultant apprehension that these same or similar problems might arise with future icebreakers. Any delays or problems in this newest program will cause considerable concern, not only with those who might be affected in the Great Lakes, but also those national interests requiring deep water icebreaking assistance.

Wind class vessels, such as the *Westwind*, have long passed their useful service life, and I believe we all can agree that there is little that can be done to renovate these obsolete World War II-designed vessels. After more than 25 years of operation in the polar regions, and the recent limited use for Great Lakes icebreaking, the need for replacement is self-evident. The Coast Guard, showing concern for these vintage vessels and forecasting the increasing needs of commerce throughout the polar regions, embarked on the replacement of these obsolescent vessels as far back as 1965. Ten years later, in 1975, the first of the *Polar* class icebreakers was delivered.

One of our concerns today is the need to decrease this lead time to better enable the Coast Guard to keep pace with the increasing needs of maritime commerce.

Another concern is the need to understand the problems associated with the *Polar* class program to permit a better understanding of the needs of the newest replacement icebreaker program.

A concern related to lead time is the possibility of using an off-the-shelf icebreaker such as the Canadian *Radisson* type or various Finnish designs, with some modifications to meet those operating requirements considered most important by the Coast Guard.

The subcommittee's primary concern is the need to obtain the best, as soon as possible, at least cost to the taxpayer.

Today we will be privileged to hear from the Coast Guard and from a number of interested industry representatives. I am sure they will materially add to our knowledge to permit us to make well-informed decisions in the near future.

At this time I request unanimous consent to place in the record at this point in the hearing a statement from the Honorable John M. Murphy, chairman of the Committee on Merchant Marine and Fisheries, and a letter from J. B. Hayes, admiral, U.S. Coast Guard Commandant, and a letter from the Honorable Brock Adams, the Secretary of Transportation, dated June 26, 1979.

[The following was received for the record:]

STATEMENT OF HON. JOHN M. MURPHY, CHAIRMAN, COMMITTEE ON MERCHANT MARINE AND FISHERIES

The subcommittee meets today to consider, in general terms, the subject of Coast Guard icebreakers. This is a complex subject, important not only to the Coast Guard but also to our nation as a whole. The needs of commerce, science, and, not least, national defense, must be met through continuance and enhancement of the ice-breaking capabilities of the Coast Guard fleet. As obsolescent ships are phased out, new programs must be established to assure that effective, versatile, cost beneficial replacements are placed into operation in a timely manner. The programs should combine the best available technology with sensible operational characteristics. And, of course, the needs of both domestic icebreaking and polar operations must be served.

The day of the venerable Wind class icebreakers is nearing its end. These fine ships, which have served so well since World War II, cannot be expected to continue in service indefinitely no matter how much renovating and modernizing may take place. But the experience gained through operating these ships through the years will be invaluable in planning for their replacement.

The Polar class ships, with their innovative design features, powerful engines, and up-to-date systems, have yet to realize their potential. The difficulties these ships have experienced raise questions about concepts underlying their design and procedures followed in their construction. The spectres of cost-overruns and contract disputes haunt the Polar class. There are, no doubt, lessons learned though the Polar class procurement process that will help steer the new program away from troubled waters.

This subcommittee and the committee on merchant marine and fisheries must explore all these aspects of icebreaker procurement and operation, and more, in order to meet our responsibilities for oversight of Coast Guard administration and operational effectiveness. At this hearing today, and any that may follow, we expect to be informed about options open to the Coast Guard; about requirements for icebreaking services both present and prospective; and about all the facets of this many sided program, near term and long range. We stand ready to be convinced that proposed courses of action are sound, but we will be convinced only by solid evidence and cogent argument. It is plain that the time for decisions is close upon us, given the lead times inherent in a capital procurement program of this magnitude. Accordingly, any proposal for delay in decision making—any argument that "wait and see" is the better course—must be justified on the record if this committee is to agree.

We welcome the witnesses who are to testify today and we look forward to the colloquy that is to transpire. Surely it is time for an action plan to emerge so as to meet in rational and comprehensive fashion the needs of commerce, science, and national defense for icebreaking services.



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

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. 15 MAY 1979

Honorable Mario Biaggi
Chairman, Subcommittee on Coast Guard and Navigation
Committee on Merchant Marine and Fisheries
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

This is in response to your letter of April 9, 1979 requesting information regarding the Coast Guard's POLAR Class icebreakers and the WESTWIND replacement program.

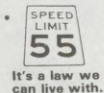
Several analytical efforts relating to the issues you have mentioned are presently in progress and will be completed prior to the planned oversight hearings. The enclosures hereto discuss these issues and indicate the scope of the ongoing analysis. The Coast Guard does not have an historical record of cost estimates and actual costs at each stage of design for the POLAR Class. An enclosure shows the funds appropriated and actual costs.

Coast Guard experience with the operation of icebreakers in both the Great lakes and the Arctic convinces me that replacement of WESTWIND with an icebreaker capable of operating in both areas is essential to the national interest.

Sincerely,

J. B. Hayes
J. B. HAYES
Admiral, U.S. Coast Guard
Commandant

- Enclosure (1) Sequence of Events from the Conceptual Design Stage to Present Time for POLAR Class Icebreakers
(2) Cost Estimate and Actual Costs for POLAR Class Icebreakers
(3) Sequence of Events in the Litigation with the Builder and Present Status of the Litigation
(4) POLAR STAR Controllable Pitch Propeller Problem Sequence
(5) Sequence of Events in the Operational Readiness and Missions Performed by Both POLAR Class Icebreakers
(6) WESTWIND Replacement



Sequence of Events from the Conceptual Design Stage
to Present Time for POLAR Class Icebreakers

18 AUG 1965	Chief of Staff authorized establishment of Icebreaker Design Program
07 DEC 1965	Feasibility and Conceptual Studies are started
APR 1967	Begin Preliminary Design
17 AUG 1970	Coast Guard gives formal notice of plans to construct replacement icebreaker
16 FEB 1971	Contract drawings specifications ready for I.F.B.
05 MAR 1971	IFB issued for WAGB-10 (POLAR STAR)
07 AUG 1971	Award firm fixed price contract to Lockheed Shipbuilding and Construction Company (LSCC) in amount of \$52.7 million to construct WAGB-10
JUL 1972	Steel production begins for WAGB-10
15 JAN 1973	Coast Guard and LSCC agree to contract modification 70 for construction of WAGB-11 at ceiling price of \$53.75 million
JUL 1973	Steel work for WAGB-11 begins
10 NOV 1973	WAGB-10 launched
31 DEC 1975	WAGB-10 delivered (372 days late)
JAN 1976 to Present	WAGB-10 underway, limited operation, experiencing propeller, shafting, and thrust bearing problems
19 JAN 1977	WAGB-11 delivered (369 days late)

Enclosure (1)

Cost Estimates and Actual Costs for POLAR Class IcebreakersAppropriated Funds *

FY-71	Congressional Appropriation	\$59,000,000
FY-73	Congressional Appropriation	\$66,000,000
	Total Appropriations	\$125,000,000

Actual Contract Price

17 MAY 1977	Includes all modifications	\$102,712,775
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Associated Project Costs

31 MAR 1979	Spare parts, contract administration, testing, claims, etc.	\$13,300,408
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<u>Funds Reprogrammed To Other Needs</u>	\$8,986,817
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TOTAL	\$125,000,000
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* Funds appropriated in FY71 and 73 were exactly as requested. Additionally funds were requested and appropriated in FY67 and 68 in the amount of \$1,000,000 and \$1,500,000 for the design of the replacement icebreaker.

Enclosure (2)

Sequence of Events in the Litigation With
the Builder and Present Status of the Litigation

- a. Lockheed Shipbuilding and Construction Company (LSCC) filed a claim on 1 June 1973 for \$386,000 increased costs resulting from the 1972 amendments to the Longshoremen's and Harbor Workers Compensation Act. The Contracting Officer denied the claim on 20 June 1973 and on 27 June 1973, the Contractor appealed to the Department of Transportation Contract Appeals Board (DOTCAB). A hearing was held before the DOTCAB on 11 February 1974 and the parties subsequently filed briefs in support of their positions. On 24 May 1977 the DOTCAB decided the case in favor of the Government.
- b. On 15 January 1973, LSCC and the Coast Guard entered into a contract modification covering WAGB-11. Following unsuccessful price negotiations, the Contracting Officer issued a decision dated 31 January 1974 to unilaterally fix the price of WAGB-11. On 22 February 1974, LSCC appealed from the Contracting Officer's decision. The contractor claims that the price should be \$66,168,517. The price has been established at \$51,294,194, which is below the ceiling price of \$53,750,000 established by agreement of the parties. LSCC has asked the DOTCAB to set aside the ceiling price as an unreasonable price and award it the amount claimed. The hearing was held in May and July 1975, briefs were filed, and the parties are awaiting the decision of the DOTCAB.
- c. On 23 February 1973, LSCC submitted a claim for approximately \$2.1 million based upon unanticipated difficulty in welding low carbon quenched and tempered steel required by the contract. The claim relates to construction of WAGB-10. The Contracting Officer denied the claim on 15 November 1973 and the Contractor appealed on 10 December 1973. The Government's position is that the contract performance requirements are clear and it is not responsible for LSCC's failure to recognize those requirements in its bid. The parties have agreed that the case should not be scheduled for hearing until after a decision in the pricing appeal.

POLAR STAR Controllable Pitch Propeller Problem Sequence

JUN 1976	Internal structural failure to both wing propellers while on initial Arctic ice trials.
NOV 1977	Underway trials with redesigned and rebuilt propellers.
JAN 1978	Trunnion bearing failure (bearings rotated in the hub) while breaking out McMurdo Channel.
OCT 1978	Completed installation of propellers with trunnion bushing shrunk in place; underway to Deep Freeze '79.
JAN 1979	Binding in all propellers; hydraulic system by-pass through the instrumentation cable passage in port and starboard hubs.
APR 1979	Propellers removed from ship for inspection of internals and corrective action.

SEQUENCE OF EVENTS IN THE OPERATIONAL
READINESS AND MISSIONS PERFORMED
BY BOTH POLAR CLASS ICEBREAKERS.

<u>DATE</u>	<u>EVENT</u>
31 DEC 75	POLAR STAR delivered to Coast Guard.
17 JAN 76	POLAR STAR Commissioned.
24 MAY 76	POLAR STAR departed for ice testing in the Bering Sea.
24 JUN 76	POLAR STAR returned to Seattle after sustaining casualties to her port and starboard propellers.
19 JAN 77	POLAR SEA delivered to Coast Guard.
31 JAN 77	POLAR SEA Commissioned.
JUL 76 - NOV 77	POLAR STAR propeller linkage redesigned and modified to a strength amounting to 4 times that of the original components. Similar propeller modifications made aboard POLAR SEA.
15 NOV 77	POLAR STAR departed Seattle enroute Operation Deep Freeze 78. Completed unassisted channel break into McMurdo in less than 2 days.
08 JAN 78	POLAR STAR experienced blade seal leakage and trunnion bearing difficulties to port and starboard propellers. Longitudinal vibration problems were also identified.
08 FEB 78	POLAR STAR arrived Seattle.
01 MAR 78	POLAR SEA deployed for Arctic West Winter 78 operations and, during her return transit, experienced problems similar to those of POLAR STAR.
07 APR 78	POLAR SEA arrived Seattle.
22 NOV 78	POLAR STAR departed for Operation Deep Freeze 79 after undergoing additional modifications to the propellers and stiffening of the wing shaft thrust bearing foundations. In conjunction with these modifications, additional instrumentation was in-

Enclosure (5)

SEQUENCE OF EVENTS IN THE OPERATIONAL
READINESS AND MISSIONS PERFORMED
BY BOTH POLAR CLASS ICEBREAKERS.

(Continued)

DATE

EVENT

	stalled on POLAR STAR to determine a more complete vibration signature. Similar modifications (less instrumentation) to POLAR SEA were completed on 11 JAN 79
09 JAN 79	Shortly after beginning the channel break into McMurdo Station, POLAR STAR sustained a casualty to her starboard propeller, which restricted the application of astern pitch. POLAR STAR was relieved of channel breaking duties and assigned other missions.
21 FEB 79	POLAR SEA departed Seattle for Arctic West Winter '79 operations. To date no serious propeller problems have been observed due to certain operating procedure changes instituted prior to deployment. While results are encouraging they are not yet conclusive. She is expected to return to Seattle on about 10 MAY 1979.
08 MAR 79	POLAR STAR returned to Seattle after operation Deep Freeze '79. Efforts to pinpoint the cause of her casualty and resolve it are currently in progress.

Enclosure (5)

WESTWIND REPLACEMENT

A dual draft icebreaker concept has been selected for replacement of Westwind. This icebreaker will be fully capable of icebreaking operations in both the Great Lakes and the Arctic. The feasibility of this concept is aptly demonstrated by the Canadian icebreaker PIERRE RADISSON whose maiden voyage was a transit of the Northwest Passage from West to East without incident followed by icebreaking operations on the Saguenay River and in the Montreal - Three Rivers area. RADISSON has recently been operating in Lake Superior and has, from time to time, provided assistance to U.S. shipping, in cooperation with the U.S. Coast Guard.

Procurement of an off-the-shelf icebreaker has been considered. The closest contenders for consideration are the Canadian R Class (PIERRE RADISSON), the Finnish URHO and ALE. Each of these would require major redesign to meet our requirements. For example, fundamental design philosophy for Coast Guard Cutters is to require that the ship be able to sustain flooding of any 2 adjacent compartments and retain positive buoyancy, i.e., a 2 compartment standard for floodable length criteria. While this philosophy will be implemented in the dual draft icebreaker design, none of the icebreaker designs mentioned above meet this requirement. Because this criterion requires consideration beginning with the basic hull structure, off-the-shelf designs would require major structural and arrangement modifications to meet this requirement. Comparison of off-the-shelf icebreaker designs with the dual draft icebreaker is shown in Table (I).

This comparison indicates that the Canadian R Class is longer, heavier, and slightly less capable of continuous icebreaking; the URHO is much longer, beamier, taller and far shorter on fuel endurance than is acceptable; the ALE is smaller, less capable of continuous icebreaking, and of shorter fuel endurance. Each of these characteristics would also require major redesign of these icebreakers which have been suggested by various parties as off-the-shelf designs which could meet our requirements.

The essence of our specifications will be to procure a supportable icebreaker which meets our operational requirements. URHO, ALE, and RADISSON have insufficient accommodations for crew size required for Coast Guard multi-mission operations and rely upon non-U.S. furnished equipment and design standards for most systems seriously complicating, if not rendering impossible the ability to provide long term support. URHO has the added disadvantage of bow propellers which render the design totally unsuitable for Arctic operations. Simply stated, there is no "off-the-shelf" existing design which can be adapted to our needs with minor revisions.

Enclosure (6)

The dual draft concept is most cost effective in providing a high degree of flexibility in ship deployments to meet the nation's icebreaking requirements in both the Great Lakes and the Arctic, now and in the future as these requirements continue to evolve through the year 2020.

The superior cost effectiveness of the dual draft concept is best demonstrated by comparing the actual operating costs and operational employment data of a Great Lakes only icebreaker with those of an icebreaker which has been used in both the Arctic and the Great Lakes.

Tables (II) and (III) summarize this information for both CGC MACKINAW and the WIND Class Cutter chosen for Great Lakes deployment.

The WIND Class Cutter has spent about 230% more time operating in ice related activities than MACKINAW, about 75% more time operating in all missions, yet its operating costs are merely 25% more. In addition to these more important and obvious long term cost advantages, the single design for a dual draft icebreaker will result in a savings during acquisition. Approximately 10% of the total acquisition cost for construction of a ship is associated with the design itself. Because the dual draft design allows us to do all that is required in both the Arctic and the Great Lakes, the cost of a second design is avoided.

The dual draft icebreaker design is now in progress. Congress appropriated \$20 million in the FY 78 supplemental to get started and directed that the Coast Guard be in a position to award a contract by 31 December 1980. The contract specifications which will require the detailed design and construction of this icebreaker are now scheduled to be available for solicitation of bids by 31 December 1980, and Contract award is planned for June 1981. Actual delivery date will remain January 1985 since we anticipate reduction in the time required for construction due to the smaller size of the vessel.

We have recently completed an analysis which was required to assist in reaching decisions during the iterative process which is followed at this stage of design development.

The purpose of the analysis was to identify any significant cost savings which could be made in a baseline design which met all requirements. The analytic approach acknowledged that, historically, cost is highly sensitive to displacement and that major cost savings could be achieved through weight reductions.

The analysis includes sensitivity of design displacement to four platform parameters. The results show that the displacement is highly sensitive to both the design fuel capacity and beam; moderately sensitive to the number of accommodations; and relatively insensitive to draft.

With this information, initial parametric studies were conducted. Thirty-six sets of principle characteristics were developed together with their comparative cost indexes. Each set was descriptive of an icebreaker design variation which resulted from reducing or removing some weight intensive systems and reducing the accommodations and fuel endurance.

While these parametric studies did not attempt to test most aspects of feasibility, they did describe ships with good icebreaking characteristics and provided significant information used in selecting the appropriate cost reduction initiatives to be exercised. The studies showed a narrow cost range (25%) which encompassed all options from a fully capable dual draft icebreaker to a minimally capable Great Lakes only icebreaker.

Based on these studies and after extensive professional consultation with the seniormost executives experienced in icebreaking operations, the Commandant gave specific design-to-size guidance intended to result in significant cost reductions. A second parametric study was based on this guidance. After review, one of the design variations was chosen for additional development. This design includes 50 days fuel endurance, 150 accommodations, one "small" helicopter, no installed self defense systems and reduced facilities for marine science activities. This choice will remain as design guidance until about mid-June 1979 when this design will again be reviewed. It is reasonable to expect that minor revisions may be made in the design guidance at that time. However, to meet Congressional direction it is imperative that this work continue without delay or interruption. Cycling the design with revised guidance at this stage is expected to result in a point cost estimate about 22% less than the baseline design. Of course, the uncertainties of the dollar value to be associated with a point cost estimate remain to be developed and will yield the cost estimate range.

The dual draft icebreaker now in design will be best suited to our foreseeable needs and is the most cost effective alternative available for consideration. In light of our analysis we are proceeding with the dual draft icebreaker design.

It is essential that we continue our efforts to achieve this design in the time frame established by the Congress.

- Tables: (I) Comparison of Off-the-Shelf Designs
 (II) Comparison of Operational Employment and Operating Costs for CGC MACKINAW and the WIND Class Icebreaker used for both Great Lakes and Arctic Operations
 (III) Comparison of Mission Oriented Employment of CGC MACKINAW and the WIND Class Icebreaker used for both Great Lakes and Arctic Operations

COMPARISON OF OPERATIONS AND OPERATING COSTS
FOR MACKINAW AND THE POLAR ICEBREAKER
USED FOR BOTH GREAT LAKES AND ARCTIC OPERATION

UTILIZATION
 OPERATIONAL UTILIZATION HOURS

FY	MACKINAW				POLAR ICEBREAKER			
	DI*	PO*	OTHER	TOTAL	DI*	PO*	OTHER	TOTAL
72	1838	-	809	2647	1342	1330	420	3092
73	1328	-	1464	2792	718	1939	592	3249
74	780	-	318	1098	1397	1755	540	3692
75	923	-	354	1277	750	1317	621	2688
76**	1055	-	658	1713	1011	1239	1048	3298
77	1331	-	590	1921	1503	2234	192	3929
78	1259	-	527	1786	1993	1672	578	4243
Totals	8,514	-	4,720	13,234	8,714	11,486	3,991	24,191
Annual Avg.	1,216	-	674	1,890	1,246	1,641	570	3,456

*DI: DOMESTIC ICEBREAKING

PO: POLAR OPERATIONS

** Includes Transition (5th) Quarter

ANNUAL OPERATING COST

FY	MACKINAW	POLAR ICEBREAKER
72	947,570	1,813,594 (EDISTO)
73	1,317,914	1,796,713 (SOUTHWIND)
74	1,411,201	1,504,423 (SOUTHWIND)
75	1,706,445	1,796,713 (WESTWIND)
76	1,592,549	2,249,189 "
77	2,090,941	2,194,979 "
78	2,441,112	2,886,646 (NORTHWIND)
Totals	11,507,732	14,242,257
Annual Avg.	1,643,961	2,034,608

TABLE (II)

COMPARISON OF UTILIZATION (IN HOURS) OF
MACKINAW AND THE POLAR ICEBREAKER USED
FOR BOTH GREAT LAKES AND ARCTIC OPERATIONS (NOTE I.)

FY MISSION	MACKINAW							POLAR ICEBREAKER						
	72	73	74	75	NOTE II.		AVG	72	73	74	75	76	77	AVG.
DOM. ICE	1838	1328	780	923	1055	1331	1209	1342	718	1397	750	1011	1503	1120
POLAR	-	-	-	-	-	-	-	1415	1939	1755	1317	1239	2234	1650
SAR	20	34	39	13	14	104	37	12	91	16	34	48	-	34
BOAT SAFE	168	150	156	182	294	193	191	-	-	-	-	-	-	-
COOP	33	-	56	55	50	46	40	-	-	73	80	-	-	26
MARPOL	-	-	-	-	-	-	-	-	-	-	-	-	185	31
OTHER	588	1280	67	104	300	247	431	323	501	451	507	1000	7	465
TOTALS	2647	2792	1098	1277	1713	1921	1908	3092	3249	3692	2688	3298	3929	3325

NOTES: I. Data from records of abstracts of operations

II. FY-76 includes transition (5th) quarter

LEGEND: DOM. ICE - Domestic Icebreaking

POLAR - Polar Operations

SAR - Search and Rescue

BOAT SAFE - Recreational Boating Safety

COOP - Cooperation with other agencies

MARPOL - Marine Pollution Response

OTHER - Includes aids to navigation, training (including cadet training) and miscellaneous employment (including vessel transit to shipyards and for logistics)

TABLE (III)



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

JUN 26 1979

Honorable Mario Biaggi
Committee on Merchant Marine and Fisheries
House of Representatives
Washington, D.C. 20515

Dear Mr. Biaggi:

This is in response to your inquiry of May 31, 1979, concerning pending icebreaker claims, Docket No. 73-36C, Lockheed Shipbuilding and Construction Co.-Pricing Claim and Docket No. 73-36B Lockheed Shipbuilding and Construction Co.-Welding Claim.

The first of these claims, the "Pricing Claim," is the largest appeal ever presented to the Department of Transportation Contract Appeals Board, both in terms of dollar amount, \$15 million, and in terms of size of record. The case was tried before the Chairman of the Contract Appeals Board in May through July 1975 in Seattle, Washington, at which time 20 witnesses were heard during 22 1/2 days of hearings. The appeal file consists of six volumes; the contractor's supplement included seven more volumes; the trial transcript is about 3500 pages; the exhibits submitted at trial, one box for each party; add to that four separate detailed vessel estimates (five or six volumes each), and several lengthy consultant reports, including computer runs.

It took the parties more than a year to submit briefs, which run to five volumes aggregating some 1200-1500 pages. The record was closed and the case submitted for decision in September 1976. The case appears to be unique not only in terms of size of record but also in terms of issues presented to the Board. Counsel say, correctly, that this is the first time any Contract Appeals Board has ever been called upon to determine the entire contract price of a major vessel under the Disputes procedure. Virtually every element of cost going to make up the contract price is in dispute. Specifically in dispute is the question of a million production manhours on the second of the Coast Guard's new Polar Class of icebreakers, the WAGB-11, named the Polar Sea. This ship was scheduled for delivery on September 20, 1976.

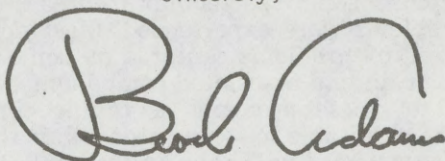
The decision has been before the judge for over two and one-half years, and he has estimated that a decision will be issued in about three more months.

Hearing on the second claim, the "Welding Claim" has been deferred on this appeal pending the outcome of the pricing claim decision. This second claim will proceed immediately upon conclusion of the first.

The Pricing Claim is not, as your letter seems to indicate, in the process of settlement, but is currently pending decision before the Contract Appeals Board. Regrettably, we conclude that the length of time which this case has thus far required is primarily the result of the size and complexity of the case.

Review and improvement of procurement control procedures is an ongoing activity. However, because this matter is still in an adjudicatory status, with a decision expected within the next three months, it would be inappropriate specifically to identify procurement practices which may have caused or contributed to this dispute. We will review the findings of the Board, when issued, to determine whether additional control procedures are warranted, and we will be pleased to report to the Committee at that time.

Sincerely,



Brock Adams

Mr. BIAGGI. The first witness is Vice Adm. Robert H. Scarborough.

STATEMENT OF VICE ADM. ROBERT H. SCARBOROUGH, VICE COMMANDANT, U.S. COAST GUARD, DEPARTMENT OF TRANSPORTATION, WASHINGTON, D.C., ACCOMPANIED BY CAPT. GRAEME MANN, DEPUTY CHIEF, OFFICE OF ENGINEERING; AND CAPT. JAMES E. GRABB, PROJECT OFFICER

Admiral SCARBOROUGH. Good morning, Mr. Chairman. I am Vice Adm. R. H. Scarborough, Vice Commandant, U.S. Coast Guard.

With me today are, on my right, Capt. Graeme Mann, Deputy Chief, Office of Engineering, and on my left, Capt. James E. Grabb, Project Officer in the Office of Operations for our new ship acquisitions.

I am very pleased to have the opportunity to discuss the ice-breaker program and the Coast Guard's plans to replace CGC *Westwing*.

The increased importance of economic development of the ocean's resources, especially within the Fishery Conservation Zone, together with serious concerns for an improved and protected ocean environment, have significantly increased the Coast Guard's workload in some programs without reductions in others. This expansion of responsibilities and the need to do more things has been met through the effective use of the resources at hand. This is consistent with the Coast Guard's concept of multimission utilization of its resources.

The ability to meet shifting national needs is the result of the appreciable attention which is devoted to forecasting requirements, resource planning, and careful acquisition of ships and other resources. This assures that these very expensive resources are tailored to our needs. The acquisition of replacements for our aging icebreakers is an excellent example of this process.

Coast Guard design expertise has been demonstrated time and again. Earlier experience gained during the design of numerous older classes of cutters including *Mackinaw* and *Wind* class icebreakers provided the foundation for our current design capability recently proven by the 210-foot medium-endurance cutters, the 378-foot high-endurance cutters, the *Polar* class icebreakers, and the new 140-foot icebreaking tugs. These designs, to varying degrees, incorporated significant advances in marine engineering technology. Successful implementation of some advances takes redesign and, therefore, time. The 210- and 378-class cutters had early debugging problems, which were resolved quickly. In the case of the *Polar Star*, we set out to build the world's most powerful conventional icebreaker, with a revolutionary and highly efficient bow form and advanced propulsion system among her many features. In construction, which was delayed, and in the initial operations which included some spectacular icebreaking performances, more serious problems were experienced. Most notably, operations have been marked by problems centered on some of the elements of the propulsion train and associated components.

Solution of these problems is taking time, partly due to the remoteness of suitable ice-testing sites—but they are being resolved, and the Coast Guard will have an icebreaker which is more powerful, more versatile, and operated by a smaller crew than its predecessors.

Our *Polar* class propulsion problems are being worked currently by a special task group of Coast Guard experts working in close cooperation with industry, the academic community, and specialists from other Government agencies. Capitalizing on lessons learned during *Polar Star's* deep freeze 1979 deployment, several operational and system changes were made to *Polar Sea* prior to her last mission. As a result *Polar Sea* just completed a very successful 3-month arctic deployment and did not have any serious problems. *Polar Sea* encountered ice conditions which may have been more severe than either of the *Polar* class icebreakers had previously encountered transiting areas of ice ranging in thickness from 3 to 8 feet with pressure ridges up to 15 feet in surface height. Although we do not have all the details worked out, I believe that the *Polar* class icebreakers are becoming mission capable.

The newest addition to the Coast Guard fleet is the 140-foot icebreaking tug, which was designed by the Coast Guard and built in a U.S. shipyard. During this past winter, the first ship of this class, *Katmai Bay*, participated in a demanding program of engineering and operational testing in Lake Superior. Debugging problems have been resolved and the icebreaking trials indicate that the vessel exceeds design expectations.

At the present time, we have made substantial progress on the design of a *Westwind* replacement. This process started some years ago with an in-depth study of long-term icebreaker requirements, followed by detailed articulation of the specific operational requirements of a replacement icebreaker.

The conceptual design established the general feasibility of maximizing all operational requirements and described the principal dimensions of such an icebreaker. This conceptual design was, therefore, approved. Subsequently, a preliminary design was com-

pleted and presented to the Commandant. At that point I felt that significant cost reductions could be made.

Accordingly, I required a thorough reexamination of capability requirements and identification of feasible cost-reduction measures. Most recently, I have given specific design guidance to achieve cost reductions while still satisfying the Coast Guard's operational requirements. Included in this process has been consideration of available off-the-shelf icebreaker designs.

Several such designs have attractive features and appear to be adequately performing the tasks for which they were designed in their intended area and mode of operation. None, however, satisfy Coast Guard operational requirements and engineering standards based on criteria including length, beam, endurance, icebreaking capabilities, and damage control. Major redesign would be required.

It has been the Coast Guard's experience that modification of a single design parameter can significantly impact other parameters and often forces a reiterative process, which affects, not only the design, but also operational employment and support plans. The icebreaker now being designed by the Coast Guard will reflect proven engineering technology and will include features found desirable in other icebreakers of Coast Guard or foreign design. Most importantly, it will best satisfy carefully considered operational requirements.

GAO has studied the Coast Guard's design and acquisition plans in some detail. The intent of their study was to analyze alternatives for expediting the procurement of a replacement icebreaker and evaluate the Coast Guard's method of estimating procurement cost. GAO concurred with our approach to designing and purchasing the icebreaker and did not identify any alternatives which would likely reduce the time required to award a construction contract.

They further concluded that the cost estimate at the preliminary design phase appeared reasonable and our estimating method is acceptable. They did, however, point out that cost estimating is more art than science and recommended analysis of uncertainties affecting cost. Significantly, GAO reported discussions with Navy, Maritime Administration, 13 naval architectural, and 6 shipyard officials. Numerous officials classified the Coast Guard as experts in icebreaking technology and best qualified to design the vessel.

Accordingly, I am convinced that the icebreaker now in design will be best suited to our present and projected icebreaker needs, the most cost effective alternative available and consistent with the Coast Guard's multimission concept.

Now, Mr. Chairman, I will be glad to respond to any questions.

Mr. BIAGGI. Thank you, Admiral. Your closing comment, Admiral, relates to the Coast Guard multimission concept. This icebreaker question has been discussed on a number of occasions.

Is it the Coast Guard's intention that the icebreaker should be designed for multimission, or for a single purpose?

Admiral SCARBOROUGH. The principal mission of an icebreaker, sir, would be to break ice. What we have contended in this particular case is that we need a ship that could be utilized more than the 3 to 4 months per year that an icebreaker designed solely for the use on the Great Lakes could be used. The Coast Guard Cutter

Mackinaw is such a design. It is quite effective for the purpose for which it is designed, but to my knowledge, it is the only facility the Coast Guard has which is so limited in its ability to be used wherever the changing requirements of the Coast Guard may demand.

So our main concern, frankly, and the one question that many of the adversaries of our position on this have never been able to answer satisfactorily, is what would we do, or what can we do with a large icebreaker which cannot be utilized anywhere except in the limited waters of the Great Lakes during the wintertime. It certainly is not a cost-effective means of utilizing scarce resources.

We do have the requirements for a breaker to operate in the polar regions for many different missions.

Mr. BIAGGI. What you are saying, in the Great Lakes then, the icebreaker will only be required for 3 or 4 months?

Admiral SCARBOROUGH. Yes, sir. Other missions that the ship might be employed in on the Great Lakes, in the other 8 months, without exception, can be performed by much smaller, less costly vessels.

Mr. BIAGGI. In modifying, or making a design that would have a multimission purpose, would you be reducing the icebreaking capacity of a vessel—let me rephrase it.

Would the icebreaking capacity of that multimission vessel be less than that of a single-purpose icebreaker?

Admiral SCARBOROUGH. I think I understand the question, Mr. Chairman. Of course, the answer is yes. Any time you do design anything for any limited purpose, you probably can make it do that purpose better, and conceivably could make it a little cheaper. A simple analogy might be if you built a house in Maine, and did not build it so it could be heated, it could probably be built a little cheaper, and maybe be a little cooler in the summertime. But you would also have to maintain a house in Florida, in order to be able to live comfortably all year round, and that is a simple analogy to what our problem is here.

Yes; we can design, if we limit the design for the single area operation. Yes; certainly we could make a breaker that probably would be a little more capable than if we designed one that can do many other missions, or operate in other areas. Like any compromise, there is always a small price to pay.

I would say, however, that with the dual design, we can operate effectively in the Great Lakes, more effectively than the ships that we are now operating there, which are doing the job.

Mr. BIAGGI. Let me ask you another question that should conclude this colloquy.

Are you satisfied that the diminution of effectiveness would not impact to the degree that the multimission vessel would be incapable when dealing with every ice condition in the Great Lakes?

Admiral SCARBOROUGH. I am, indeed, sir. And I might add, that to my knowledge, the present Commandant is so convinced, as have been his two predecessors, and my two predecessors. Obviously the further back you go in history, the less specific is the design. But as to the concept of not building a large—another large icebreaker, limited solely to the Great Lakes, this procedure had the

strong endorsement and support and approval of the two previous administrations in the Coast Guard.

Mr. BIAGGI. It is understood that the Coast Guard has completed the preliminary design stage, which focused on the dual draft concept. This means that you have developed data to validate feasibility, and to determine final key dimensions and capabilities.

Could you provide us with a brief discussion of the data developed to validate feasibility and, could you also provide us with the final key dimensions and capabilities?

Admiral SCARBOROUGH. Was your question, Mr. Chairman, the dimensions that we are now talking about in our design effort? I am sorry, I am having a little difficulty hearing.

Mr. BIAGGI. Yes.

Admiral SCARBOROUGH. The Coast Guard did complete a preliminary design of a dual icebreaker last December. This design, after evaluation, was, one, considered both too big, mainly in length, and too costly, although it had been designed to optimize, or maximize—I should say, the requirements in both cases in general.

The redesign of the dual draft icebreaker, with a design to smaller guidelines and some latitude to reduce this cost was initiated. This conceptual design has been completed.

The preliminary design is now underway, and scheduled for completion in November of this year. The preliminary design will, as we proceed, revalidate the feasibility of this dual draft design to assure that it does indeed satisfy all of our operational requirements.

Also, as we proceed, there will be further refinements, and finalization of the key dimensions and capabilities. The data which we have developed to validate the feasibility so far includes the preparation of arrangements, and structural drawings, a model test and analytical validation of performance, extensive evaluation of stability in both damaged and undamaged conditions. Propulsion and electrical electronics systems designs to develop basic hardware characteristics, various safety studies, and updates on our cost estimates.

The conceptual design has an overall length of 296 feet, and a maximum beam of 64 feet. The diesel electric propulsion plant of approximately 13,500 horsepower is provided for an icebreaking capability to break continuously 3 feet of ice. The design will accommodate up to 150 personnel, with an endurance of both fuel and storage of 50 days. Provisions for a single helicopter, and scientific research facilities have been incorporated into the design.

We have decided, for the time being, not to include any weapon system for wartime or contingency use.

Mr. BIAGGI. What have you incorporated in this design that you don't have in the old vessel? What distinguishes this design from the previous icebreakers?

Admiral SCARBOROUGH. From previous icebreakers that we have built, sir?

Mr. BIAGGI. Yes.

Admiral SCARBOROUGH. Well, of course it is about the size of the *Mackinaw*, it is a little longer than the Wind class, the hull form is designed to be an effective icebreaker within a small range of different drafts, thereby allowing it to not only operate effectively

in the Great Lakes, but to exit the Great Lakes and operate in the Arctic regions.

The so-called dual draft concept is probably what distinguishes it the most, but I would caution that at least in our present conceptual design there really is not all that much difference in the two drafts. We are talking about 2 feet difference between the lakes' operation and the polar region operation.

Mr. BIAGGI. The Canadians seem to be operating their R class icebreaker in a very satisfactory manner in the ocean, as well as Great Lakes waters.

If Congress insisted on funding an off-the-shelf icebreaker like the *Radisson*, and we disregard the two compartment standard the Coast Guard desires, what type of impediments do you foresee in meeting your operational requirements?

Admiral SCARBOROUGH. Mr. Chairman, if the Congress decided for us to build a one-compartment ship, or buy a one compartment ship, thereby abandoning the two compartment standard, I would submit this would be a very major compromise in safety for our people.

Mr. BIAGGI. Could you elaborate on that?

Admiral SCARBOROUGH. Yes, sir. The icebreakers operate in close quarters with other big ships, frequently in conditions that as a minimum could be described as not the best. As a result, I think it is a fair statement to say that we have collisions, probably on the average of once a year. Fortunately, most of the time these turn out to be relatively minor. However, at any time, due to jammed throttle, misjudgment, or most anything else, a collision could occur. A significant grounding could occur, and a ship that is a one-compartment ship, means that it can only take flooding in one compartment before it becomes unstable, and it will sink.

Unfortunately, most holes, and most damage occur at the boundary between two compartments. Even if they are confined, at the strike point to one compartment, leakage can occur unless damage control measures are effected right away, which they may or may not be. We feel it is very important to have our ships for the type of operation that we put them in, to be able to sustain flooding in any two adjacent compartments without danger of sinking.

I think the chairman is familiar with many recent casualties, including, unfortunately, one in the Coast Guard where a ship sank rather suddenly that did not have sufficient survivability from this standpoint.

Now, having that as a given—the R class icebreaker would probably come closer to satisfying our requirements than any other ship that has been brought to our attention. We do feel that it would be more expensive, however, since it is somewhat larger, and other things being equal, ships, like most other things, sort of tend to sell by the pound. It specifically is somewhat longer than we want, it is heavier and slightly less capable in the ice than would be our dual draft design.

In addition, it is built for a different concept of manning than our multimission Coast Guard designs usually demand. They use a civilian type crew manning, which involves fewer people, probably with better accommodations. So we would probably—to make it

consistent with our type of operations—want to modify considerably the habitability space of the living quarters on the ship.

To some extent, and I do not want to overemphasize this, but it is a consideration because Canada is our close friend to the north, it probably uses a great deal of parts that are common, as we do in many other manufacturing agencies, but we still would be buying a ship that would have foreign equipment, perhaps with substantial supply and repair problems that would commence after the delivery of the ship to the United States.

Mr. BIAGGI. What would such a vessel cost, and when do you expect delivery?

Admiral SCARBOROUGH. We have run up, using the methodology which we have for our cost estimating—and our position again, as GAO agreed, costing is an art rather than a science—and we are talking about a lot of time. We estimate that it would cost approximately 25 percent more than our intended dual draft design. It could be expected no sooner than the present schedule for our dual draft icebreaker.

Mr. BIAGGI. What is the schedule for the dual draft icebreaker?

Admiral SCARBOROUGH. I will furnish you this graphic schedule for the record, Mr. Chairman, and we have furnished this in accordance with congressional direction, to the Senate, I believe, also, sir, for our updated design.

I will furnish you another copy for the record here. But we believe that the Coast Guard will now be able to invite bids by December 31, 1980. This new design can be constructed in 6 months less time than the earlier larger vessel that we were looking at, and therefore it still will be delivered, we estimate, on the same schedule that the earlier one would have been, which would have been in December 1984.

[The following was received for the record:]

Mr. BIAGGI. What will the Coast Guard design vessels cost, do you have an estimate?

Admiral SCARBOROUGH. Again, sir, with the caveat that our estimate at this time is very difficult; I feel the earlier figure that you were given of \$91 million, would be the delivered price. It would be the contract type price.

Obviously, when we outfit her for supplies, and so forth, the total package deal will run somewhat more than that, and that is true regardless of what type of breaker we buy, or build, but for sake of consistency in comparison, I will use the contract price figure that we would intend, and I will say that we are anticipating that it could be in the order of \$90 million, which I believe was the figure that the Commandant furnished the Congress earlier, and hopefully somewhat less, depending on how much competition we get, and a number of other factors.

Mr. BIAGGI. Is it your testimony that an icebreaker like the *Radisson* would cost 25 percent more?

Admiral SCARBOROUGH. That is our estimate.

Mr. BIAGGI. It is our experience that the contract prices are generally not the price in which we finally get the object for, whether it be a vessel or a plane, or whatever.

Have you allowed for any overruns, modifications?

Admiral SCARBOROUGH. I would certainly agree that that is generally our experience, but we have held pretty close to the price we have contracted for in all cases, including the *Polar* class, which I think has been criticized from time to time. We actually ended up under the contract price estimate on that.

However, there is some money still in dispute, as you know, and I think you have the Secretary's letter advising you of the status of those claims.

Mr. BIAGGI. Well, the Coast Guard distinguished itself in this area, at least.

Admiral SCARBOROUGH. I think that is true, Mr. Chairman. And I believe you have had testimony before this committee that the Coast Guard certainly has surpassed the Navy, and many other builders in this particular area.

In other words, I would refer you to hearings that were conducted in 1974 before the Seapower Subcommittee of the Committee of Armed Services in the House of Representatives in the 93d Congress, where the ability of the Coast Guard to buy and contract without undue cost overruns, in the usual sense of the cost overrun, was praised quite highly, and this was repeated in the public press.

Mr. BIAGGI. You stated that the 140-foot icebreaking tugs have exceeded your design expectations. Could you please elaborate on that comment?

Admiral SCARBOROUGH. We feel that is true, sir. I rode the *Katmai Bay* up in Sault Ste. Marie area last winter. She was able to run along at two-thirds power, making about 8 knots between ice that varied between 15 and 23 inches thick. The ship was designed to break ice, continuous running, we estimated only about 3 knots at that, at 18 to 22 inches thick. That in itself is a significant overachievement.

We found that she was breaking ice very nicely up to 28 inches. It is a highly capable little vessel, the early bugs that we had in the control mechanism for the engines was simply a matter of adjustment, just like you might have on your automobile timing if you bought a new automobile—once that is throttled down, that is fine.

We have a few very minor adjustments for visibility and things like that, but we are working those out very rapidly.

Mr. BIAGGI. I have additional questions, but at this point I will yield to the gentleman from Minnesota.

Mr. OBERSTAR. I want to thank the chairman for scheduling these hearings and for his consistent interest in the needs of the Great Lakes in all seasons of navigation—

Mr. BIAGGI. If the gentleman will yield. I must apologize, the gentleman from Texas.

Mr. OBERSTAR. Let me finish my praise.

Mr. DE LA GARZA. I yield to the gentleman from Minnesota. I have no great need for icebreakers where I live.

Mr. OBERSTAR. Thank you, Mr. de la Garza. The chairman has been most generous in giving of his time and the subcommittee time to Great Lakes matters in general. I thank the gentleman from Texas for his participation in today's hearing.

Admiral, you stated early in your testimony that the *Polar Star* has a revolutionary and highly efficient bow form and advanced propulsion system.

Could you describe what is revolutionary about it, and what makes it efficient? How does that differ from what we might otherwise term a conventional system?

Admiral SCARBOROUGH. Well, addressing the bow form first, I will have to say I do not understand it. It is more esoteric than I am capable of understanding.

I must say all the naval architects have applauded the design, it is extremely efficient. I can provide additional technical amplification of that for you, sir, for the record. Perhaps I could get Captain Mann to elaborate now.

As far as the propulsion system, the difference primarily is the controllable pitch propellor, with the power train design allowed us to get 60,000 horsepower in a relatively small vessel. Otherwise, without nuclear propulsion we could not have achieved this much power.

I would like to ask Captain Mann, if you can, to elaborate on the bow form, and what that does mean.

Captain Mann. Mr. Oberstar, the bow form that was used on the *Polar* class was used for the first time on an icebreaker that we are aware of. This bow form was developed by a Coast Guard officer doing his doctoral thesis at MIT. The whole purpose of the bow form is to be able to break a certain amount of ice with less power, or conversely break a larger amount of ice with a certain amount of power.

We have found from our model tests that indeed this bow form breaks more ice per given power than any bow form existing, including the old *Wind* and the *Mackinaw*. So as a measure of efficiency, this is why we make our statement.

Mr. OBERSTAR. Are there any other features on the vessel which add to its efficiency in moving through ice, such as the air bubbler system?

Admiral SCARBOROUGH. We did not install air bubbles on the *Polar* class. We have installed them on the 140-foot tug. That is a nice improvement. It has improved the efficiency of the ship.

Mr. OBERSTAR. That design is being used on an experimental basis on vessels on the Great Lakes during winter shipping. It reduces friction, drag, and the likelihood of ice forming on the outside of the vessel.

Admiral SCARBOROUGH. I think we generally agree, that certainly for moving through the ice, that the power that is applied to the bubbler system, which incidentally is considerable, and the space that this equipment occupies on the ship is probably the most effective way of applying that additional power, and it has indeed improved the capability of our 140-foot class.

Mr. OBERSTAR. You mentioned that there were some spectacular icebreaking performances. Could you describe what made them spectacular?

Admiral SCARBOROUGH. Yes; I alluded briefly to the amount of ice that the *Polar Sea* moved through, and I am trying to lay my hands here on a message which we received from the *Polar Sea*, reporting this performance.

I would like, with your permission, to furnish this for the record, but in essence, he reported that from March 31 to April 1, and from April 14 to April 15 he encountered ice thicknesses 3 to 8 feet, and 8 octas—that means 100 percent of the ocean surface covered with ice—with weathered ridging 12 to 15 feet in surface height, and this all with a 10-inch snow cover.

[The following was submitted:]

ICEBREAKING EXPERIENCE

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 ZNY UUUUU
 R 120300Z MAY 79
 FM USCGC PALAU SEA
 TO RUEBJG/COMDT COGARD WASHINGTON DC
 INFO RUWMFU/CCGTHINTFEN SEATTLE WA
 RUWMFU/COGARD ISF SEATTLE WA
 CG GARC
 BT

UNCLAS //N16155//

ICEBREAKING EXPERIENCE

A. YOU 021534Z APR 79

B. H.O. PUB. NO. 705

1. HAVE REVIEWED LOGS AND ICE DATA RECORDED DURING APR-79.
 BELIEVE FOLLOWING TO BE REPRESENTATIVE OF HEAVIEST ICEBREAKING
 DURING T IP. ALL ICE IS FIRST YEAR.

31 MAR TO 1 APR AND 14 APR TO 15 APR

A. ICE THICKNESS 3 TO 8 FEET 8 UKTAS WITH WEATHERED RIDGING
 12 TO 15 FEET SURFACE HEIGHT 5 UKTAS CONCENTRATION AND
 10 INCH SNOW COVER.

B. ICEBREAKING MODE WAS CONTINUOUS FOR MOST PART WITH BACKING
 AND TAMMING OCCASIONALLY NECESSARY TO TRANSIT HEAVIER

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RIDGING.

C. PROPULSION PLANT WAS OPERATING IN TURBINE MODE WITH 3 MGT
 WITH HP RANGES EST BETWEEN 5000 TO 20000 PER SHAFT.

D. SOA SUBJECTIVELY EST AT 2 TO 3 KTS THRU HEAVIEST ICE AND
 3 TO 5 KTS THRU LIGHTER ICE.

E. TOTAL OF 28 HRS SPENT RUNNING MGT THRU THIS TYPE OF ICE.
 22 APR TO 26 APR

A. ICE THICKNESS 3 TO 5 FEET 8 UKTAS WITH WEATHERED RIDGING
 6 TO 12 FEET SURFACE HEIGHT AND 2 TO 6 UKTAS CONCENTRATION
 WITH 10 INCH SNOW COVER.

B. MODE OF ICE BREAKING MOSTLY CONTINUOUS WITH SOME BACKING
 AND TAMMING PARTICULARLY IN MIXED MODE AND DIESEL MODE.

C. PROPULSION PLANT SET UP WAS 1 MGT PER SHAFT FOR 21 HRS,
 2 MGT AND 2 DIESEL FOR 13 HRS, MGT ON CL SHAFT AND 2 MDE
 EACH WING SHAFT FOR 37 HRS, AND 2 MDE PER SHAFT FOR 49 HRS.
 POWERS RANGED FROM 60,000 SHP TO 12,000 SHP IN DIESEL MODE.

D. SOA SUBJECTIVELY EST AT 4 KTS AVG RANGING FROM 2 TO 10 KTS.

E. TOTAL HRS ICEBREAKING THIS TYPE ICE EST AT 120 HRS.

2. GENERALLY ICE BREAKING WAS DONE IN CONTINUOUS MODE WITH SOME
 BACKING AND TAMMING REQUIRED PARTICULARLY IN RIDGING CONDITIONS.

ACT: G-000

INFO: G-0 G-ENE

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BACKING AND TACKLING WAS MINIMIZED BY USING SPEEDS OF 5 TO 7 KTS. WHILE SCAFFING WAS NOT SPECIFICALLY DONE, MANEUVERING TO AVOID THE HEAVIEST RIDGING AND RAPID CHANGES OF SHIPS HEAD BROUGHT ABOUT BY TRANSITING RIDGED FLOWS PRESENT WING PROPS TO THE ICE SIMILAR TO SCAFFING OPERATION. IN ADDITION STERN WAS FISHTAILED TO AID PROGRESS THRU THE ICE.

3. MAJORITY OF ICE ENCOUNTERED (APPROX 75 PERCENT OF ICE OBS) WAS 4 TO 24 INCH THICK, 7 TO 8 OKTAS WITH LIGHT RIDGING 3 TO 6 FEET AND 4 TO 6 INCH SNOW COVER. THIS ICE WAS GENERALLY TRANSITED WITH 6 MDE ON THE LINE WITH SHP RANGING 2000 TO 6000 PER SHAFT WITH MAJORITY AT LOW SHP LEVELS. SOA WAS GENERALLY 5 TO 10 KTS WITH SOA USUALLY KEPT BELOW 7 KTS AS SEA CHEST PROBLEMS WERE LESS FREQUENT AT A SOA BELOW 7 KTS.

4. PROPULSION PLANT AND PROPELLER OPERATION WERE VERY GOOD AND PRESENTED FEWER PROBLEMS THAN ANTICIPATED. SUBJECTIVE SHIP IS CAPABLE OF BREAKING ICE IN EXCESS OF DESIGN CRITERIA.

5. DURING THE SECOND PHASE OF AWW 79 A PARTY FROM ARCTEC, INC., MADE DIRECT OBSERVATIONS OF ICE CONDITIONS, PROPULSION ARRANGEMENTS, RECORDED EXACT SPEEDS AND EXTRAPOLATED SHP USING PROP CURVES. MR. RICHARD A. VOELKER OF ARCTEC WAS THE SENIOR MEMBER OF THE

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PARTY.

6. REF B PRESENTS ICE OBSERVATIONS FOR THE VICINITY OF MCMURDO AS 5 FEET IN THICKNESS AND 8 OKTAS, CONSOLIDATED PACK/FIELD IN CONCENTRATION. THESE CONDITIONS APPEAR TO BE LESS SEVERE THAN THOSE ENCOUNTERED IN THE 148 HOURS OF ICE-BREAKING CITED IN PARA. 1.

BT

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Admiral SCARBOROUGH. He maintained icebreaking in a continuous mode, with breaking and ramming required, only as necessary to transit the heavy areas. Horsepower ranges estimated between 5,000 and 25,000 per shaft. Still not the maximum capacity of the vessel, even at the 20,000. That would be approximately two-thirds.

He subjectively estimated his speed at 2 to 3 knots through the heaviest ice, and 3 to 5 knots through the lighter ice. This gives you a feel. He felt that this, and some people measuring this, felt it was perhaps the greatest, heaviest ice seen.

I view that last statement with a little bit of skepticism, because the arctic ice does not compare, I do not believe, with the old multiyear, worst sometimes in the Antarctic. But I would remind that another example was the *Polar Star*, on her first trip down, broke the channel out to McMurdo in about 40 hours, a job that normally takes about 2 weeks.

I was riding the *Polar Star* in January of this year, as she started breaking into McMurdo Sound. The breaking there, before we called it because we were concerned with the instrumentation that we had installed, especially to watch what was happening to these controllable pitch propellers, was indeed very impressive.

Mr. OBERSTAR. That is interesting.

Are you comparing a conventional icebreaker with a nuclear propelled icebreaker?

Admiral SCARBOROUGH. That is, I think, the usual term, sir. To speak of conventional versus nuclear.

Mr. OBERSTAR. The United States does not have any yet?

Admiral SCARBOROUGH. We do not have a nuclear-powered icebreaker, although I think the Congress authorized one back in 1958, but it never got built.

Mr. OBERSTAR. The Russians have built nuclear power. Does that have any great horsepower?

Admiral SCARBOROUGH. I believe the answer to that is yes, sir, it is greater capacity than ours.

Mr. OBERSTAR. You say that the *Polar Star* has a smaller crew than its predecessors. What is the size of the crew on previous icebreakers?

Admiral SCARBOROUGH. They have ranged up to about 180 people, sir. We have been bringing them down and, of course, this varies with what sort of air crew is aboard and a number of other factors.

For example, the present complement that we have whittled it down on our old *Wind* class breakers is a total of 141 people, consisting of 12 commissioned officers, 2 warrant officers, and 127 enlisted. This number, of course, might be increased by the air crew. In comparison, the *Polar Sea*, a much larger and more capable vessel, has a total of only 139 people, 9 commissioned officers, 5 warrant officers—

Mr. OBERSTAR. You said, I believe in response to the Chairman's question, that there would be 150 personnel?

Admiral SCARBOROUGH. We are allowing for billeting up to 150 people. That would be the air crew people, scientists and so forth. Icebreakers tend to attract other people in addition to the crew.

Mr. OBERSTAR. Could you estimate what size your crew actually would be?

Admiral SCARBOROUGH. Yes, sir, conceptually we would visualize the dual draft, the present design we are working on, of running around 125 total crew.

Mr. OBERSTAR. What is the size of the *Mackinaw* crew? How does the vessel under design compare?

Admiral SCARBOROUGH. About 116 now. About the same size. It is going to be the same size vessel as the *Mackinaw*.

Mr. OBERSTAR. Not all share your enthusiasm for the *Polar* class icebreaker. I saw sometime earlier this year an editorial in the Seattle newspaper entitled, "Ice Follies."

A grateful city should institute regular ceremonies of joy to greet the icebreakers *Polar Star* and *Polar Sea* when they limp back to port here for another session in drydock to repair their propulsion systems.

Since launching several years ago, each ship has been returned here twice for major repairs, and the *Polar Star* is on her way back now, withdrawn from ice-breaking in Antarctica.

The Coast Guard reckons that each drydocking pours \$1 million into the local economy just for the ship. Lord knows how much the officers and crew of each ship leaven into the economic well-being of our city during these lengthy stayovers, but it can't be anything to scoff at.

In recognition of this bounty, it would not be too much to bring out a band, hula dancers and an official civic greeter to welcome the icebreakers back into the port where they seem to be most of the time."

Rather cleverly written editorial. It suggests that there are perhaps more problems than meet the eye.

Admiral SCARBOROUGH. I agree, it is a very clever editorial. I do not think I read it before. It calls to mind the saying that there are many wise people ashore when sailors are in trouble at sea.

We have had some trouble.

Mr. OBERSTAR. I did not read the editorial to poke fun. I know how it feels when I get that kind of editorial written about me.

Admiral SCARBOROUGH. I do not want to minimize the problems, Mr. Oberstar, or maybe I do want to minimize them. I think perhaps they have been blown out of perspective as far as the size of the investment, the size of the operation. We have had some problems. We are overcoming them. We have operational breakers now, they are able to work, not up to full capacity yet, and we have not put on the third crew for the two ships yet for that reason. We expect, and our present plans are to operate the *Polar Sea* in the Antarctic this November to break out McMurdo Sound and to put the *Polar Star* out to Artic west next February and my expectation is they are going to be able to do the job and quite well.

Mr. OBERSTAR. You are saying November. When was the date of initiation of design of the *Polar* class vessel, just approximately?

Admiral SCARBOROUGH. It is already in antiquity. I think it started when Admiral Trimble was in the position I am now, almost 10 years now, certainly conceptually almost before that time.

Mr. OBERSTAR. Do you think it will be a decade between the time that you initiated the design and the time that the Great Lakes icebreakers are going to be able to operate fully?

Admiral SCARBOROUGH. Perhaps it will be, sir, because in this day and age it takes time—even when things move very, very fast in this regard—and bear in mind I was talking from the first conceptual and not from the time you let the contract. These days 10 years is pretty reasonable and it is getting longer and longer every year with the implementation of requirements such as the

A-109 instruction from OMB. But 10 years to build a major construction is not unreasonable from concept and need. You know, we are thinking, and our planning is running in many areas, 30 years ahead of time all the time. So we are looking at these things and phasing them in.

Mr. OBERSTAR. If I understood you rightly, you said that the design for the Great Lakes class icebreaker would be to crack 3-foot ice.

What is the range of ice thickness on the Great Lakes, including ridges? What is the type of ice that you generally handle?

Admiral SCARBOROUGH. We generally are dealing with solid ice less than that. I believe about 24 to 27 inches is usually the thickness, ridges, of course, go way on up. I have seen ridges above the bridge of the small tugs. We have computed for our design purposes, however, about 3 feet of ice with, of course, snow cover frequently and ridges up to 20 feet, and I think that is a clear estimate of the worse that you would normally get.

Mr. OBERSTAR. What draft are you calculating for these vessels?

Admiral SCARBOROUGH. About 21 feet in the lakes mode.

Mr. OBERSTAR. Do you have any information on the total cost today of correcting all of the various problems reported for the *Polar* class icebreakers since they went into service?

Admiral SCARBOROUGH. We have spent up to now about \$3.8 million. There has been a good bit of work that was under warranty, of course, that the commercial outfits who designed and built those propellers have had to crank back in.

Mr. OBERSTAR. Is some of that cost under litigation right now?

Admiral SCARBOROUGH. Well, there are two major areas that are under litigation and appeal. One simply has to do with the legal term of what constituted a contract, and this has been a highly involved thing. That involves, I believe, something in the order of \$12 to \$15 million. There is another substantive claim that runs in the order of \$2 to \$3 million that relates to problems of welding and the type of steel that was involved. That second claim will not be decided, I understand, until after the first one is. The hearings on this have been extensive, that is, of course, before the Contract Appeals Board, and I believe the Secretary reported to the chairman that he anticipated some decisions in the next few months.

Mr. OBERSTAR. Your letter indicates that both you and the contractor, Lockheed, are waiting for decision by the DOT Contract Appeals Board.

Is it still going through hearing?

Admiral SCARBOROUGH. That is still in process, sir. They have had many, many hearings, the record of which fills many volumes.

Mr. OBERSTAR. Lockheed, according to the letter we have received from DOT is seeking \$15 million more, \$66 plus million against the \$51 million which is the price the Coast Guard has set. When these contract disputes are settled by contract boards, how is the award paid, out of what fund? Do you have to have appropriated moneys for that or does it come out of some special fund for that?

Admiral SCARBOROUGH. In the first place, our experience generally has been that the amount in dispute and the amount the Government pays are two substantially different figures. I do not want

to say much more than that because I am not familiar with the details in these particular claims and I would not want to compromise them. I can furnish for the record charts, however, that we made up, which show our history of contract price versus changes which were paid versus claims which were paid and versus claims pending.

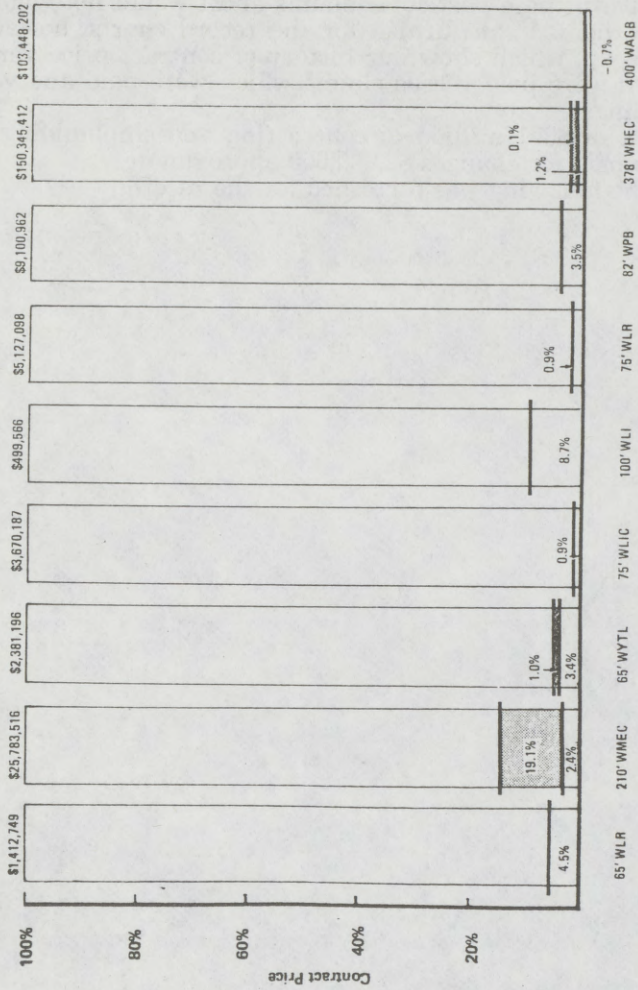
Out of \$301 million of contracting and shipbuilding history, we have paid for changes \$2,800,000 approximately.

[The following was furnished for the record:]

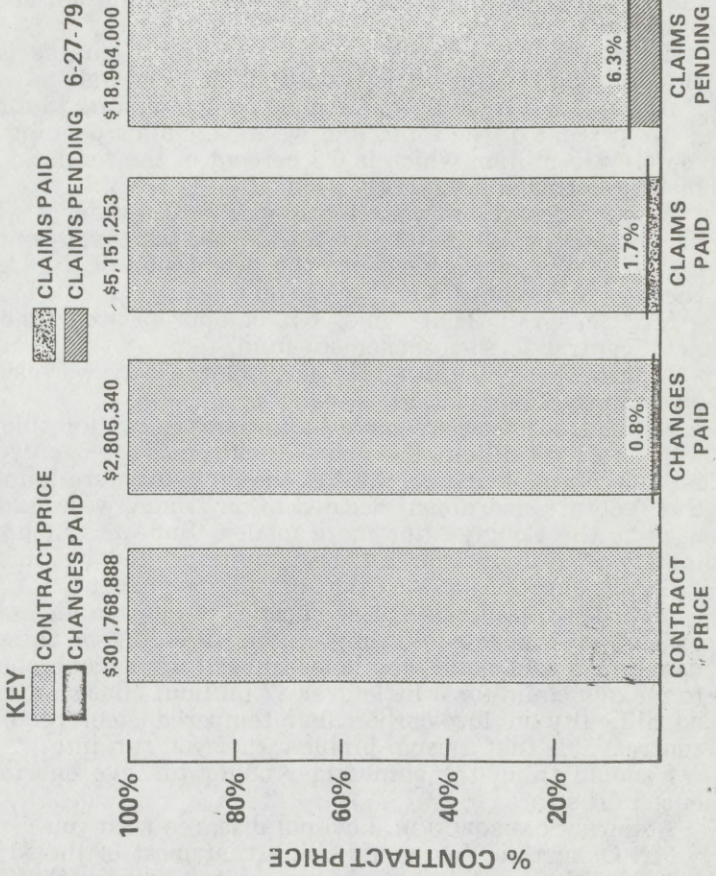
COAST GUARD SHIPBUILDING CONTRACT HISTORY

KEY Contract Price
Claims Paid
Changes Paid

6-27-79



COAST GUARD SHIPBUILDING CONTRACT HISTORY



Mr. OBERSTAR. In the icebreaker field?

Admiral SCARBOROUGH. No. In our shipbuilding contracts since the early 1960's. We have contracted for \$301 million, approximately. We have paid for changes which we ordered and asked for during the construction, approximately \$2.8 million or 0.8 percent of the total.

Mr. OBERSTAR. I think we will put you in charge of the Navy shipbuilding program. They do not do quite as well.

Admiral SCARBOROUGH. We have paid in claims \$5 million which is 1.7 percent of the total, and we have claims pending of approximately \$19 million which is 6.3 percent of the total. So I think our history in this area is pretty good.

Now, in answer to your more specific question of where do we get the money, ultimately we get it from the taxpayer through the Congress. We reprogram with the permission of the Congress and the Appropriations Committee to do this.

Mr. OBERSTAR. That comes out of appropriated funds. There is not a contract claims settlement fund?

Admiral SCARBOROUGH. No, sir, not the way we operate in any event in the Coast Guard.

I would add that we have had appropriated for this contract a total of \$125 million of which we still have spent only about \$119 million. Now, obviously, if all of these claims were found valid and the Federal Government decided to pay them, we would be coming back to the Congress for more money. But we still have approximately \$6 million that has been appropriated for this particular contract, pair of contracts, that has not been spent.

Mr. OBERSTAR. I raise these questions to get an idea of the future difficulties that we may have in the building of these. But is it usual for a contractor who holds himself out as a shipbuilding firm to make a claim for a little over \$2 million, "Based on unanticipated difficulty in low carbon and tempered steel required by the contract"? Is that a usual problem that you run into?

I should think the shipbuilder ought to have enormous experience in that area.

Admiral SCARBOROUGH. I cannot disagree with you.

Mr. OBERSTAR. You would think that most of the \$15 million is not a legitimate claim, would you, certainly since the Coast Guard is disputing it?

Admiral SCARBOROUGH. I do not want to avoid the question, sir, but maybe I do want to avoid it. It is properly being adjudicated by an appeals board. I have a personal opinion but it would not be any more valid than one on the other side.

I can only give you the history on the average of what we have done and what our experience has been and perhaps we will stay on that average.

Mr. OBERSTAR. That raises some questions that are very material to the course of work that we are following with regard to dual purpose icebreakers.

Your letter to Chairman Biaggi indicated that the Coast Guard considered so-called off-the-shelf designs and indicated that off-the-shelf design would require major redesign or reconfiguration.

Why would that be necessary and which off-the-shelf designs did the Coast Guard consider?

Admiral SCARBOROUGH. We considered all that has been suggested to us and all that we knew about, including Finnish icebreakers. Basically, none of the foreign designs with which we were familiar had the two compartment safety that I have described a little bit earlier that was essential. The two major designs that we were considering that are in the size range that we are talking about, and there were only two, that is the *Urho*, the Finnish *Urho*, and the Canadian R class were both substantially larger vessels that we think we need and hence probably more costly, regardless of what people say they can build and furnish these for.

Again our experience has been that ships usually sell by the pound. Our cost estimating system which we have applied to our own designs, as well as the others, assuming the same criteria, same time frame and so forth, would indicate that both of these designs would be, if we indeed started to buy them, substantially more costly. In addition, the *Urho* draft was greater and the compartmentation, in addition to damage control concerns, for living conditions, a problem—now, do not get me wrong, I would dearly love to have our ships with saunas like the *Urho* has, and I am sure that has impressed other visitors to that ship like it has me. But I do not think we could justify saunas with our crews when we still have them living four high in small compartments.

Mr. OBERSTAR. It might be a great addition to crew morale to take a nice warm sauna after being on watch.

Admiral SCARBOROUGH. It might indeed, and I applaud the idea. Thus far, we have not been able to give the guy more than a few square feet to live in.

Mr. OBERSTAR. What additional cost did you estimate would be incurred if you were to take an off-the-shelf design and keeping in mind that I think it was entered in testimony in this committee's hearing of previous years, that the Finnish shipyard offered a guaranteed price of \$60 million for this sized vessel. What estimate did you give for cost of redesign of an off-the-shelf icebreaker?

Admiral SCARBOROUGH. We could only take the ship as we would see it. We do not know what the cost would be to redesign.

As I indicated earlier, when you start to changing one parameter of the design, like to get the draft less, get the beam less, get the length shorter, any one of those are major changes. The habitability business is probably less of a major change. These are internal compartmentations that are less. But when one basic parameter is changed, that is a process that has to go all the way through. I cannot comment on anyone's offer to guarantee a fixed price.

I would say that is not usually the way we are required to do business. We are required to go on the open market for competition, and nobody knows what anything is going to cost until not only the contract has been let, but all the claims adjudicated.

Mr. OBERSTAR. I appreciate that. But I raised the point because this indicates that the cost of the *Urho* class Finnish icebreaker is about 50 percent less than your estimated cost, or your estimated cost is about 40 percent more. If design changes amount to the difference of \$30 million, that would be a rather surprising figure.

Admiral SCARBOROUGH. We are talking a different time frame, too. Our estimate a couple of years ago, some of these costs are escalating between 15 to 20 percent a year. Those *Polar* class

vessels that we are talking about would cost us almost three times as much, we estimate today, as they did when we bought them. So we got a real bargain even no matter how you slice it, assuming we need the ships.

Mr. OBERSTAR. You cited for the chairman an estimated figure of \$90 million, and that the Finns are still, as I understand, willing to build an *Urho* class with whatever changes may be necessary in a 2-year delivery period, at a total cost of \$60 million. That is a \$30 million savings.

Admiral SCARBOROUGH. And if when we put this contract out for bid and the Finns or the Canadians or the Nigerians or anybody else can come in and bid on successfully within the contract and get it at that price, I would be very, very happy. As long as it gives us the same ship and the same time frame. They will have an opportunity, according to our process, unless the Congress lays on a stipulation as they did in the *Polar* class that these ships must be built in an American yard. Absent that constraint, this will be opened to all bidders worldwide with applicable "Buy American" provisions.

Mr. OBERSTAR. Mr. Chairman, do I have additional time?

Mr. BIAGGI. Yes.

Mr. OBERSTAR. How many icebreakers have been built in American shipyards since 1940?

Admiral SCARBOROUGH. Approximately 10, depending on what you call an icebreaker.

Mr. OBERSTAR. So that is not a rather substantial number of icebreakers built in American shipyards compared to the number of vessels required for Coast Guard, Navy, and maritime?

Admiral SCARBOROUGH. No, sir. But it is a substantial portion of the icebreakers built worldwide, perhaps considering our proportionate need and it is also a considerable experience in building. I do not think you get much more experience building 10 of one class, for example, than you do building 2 of one class. Once you have gone through the first and second breaker, the rest are pretty much mass production.

Mr. OBERSTAR. What lessons then have been learned from the Coast Guard's experience with the *Polar* class that can be applied to the construction of the Great Lakes vessel?

Admiral SCARBOROUGH. A considerable amount of relatively recent engineering design and contract supervision experience. That was a large contract, a large vessel. From our own design and contracting, supervision experience, it was a tremendously successful experience. Our problems basically have been the detail design that was done by contract, by contractor, subcontractor on the construction of that.

Mr. OBERSTAR. Is the Coast Guard planning to do the design of this new vessel in-house or to contract that out?

Admiral SCARBOROUGH. We will do it substantially the same way. In other words, we do a total of approximately 12 percent of the design ourselves. That is conceptual, the preliminary and the contract phases of the design. The other 88 percent or the construction part of the design, the details, are all done by the contractor who bids and builds the ship or by his subcontractor.

Mr. OBERSTAR. That would be largely filling in details?

Admiral SCARBOROUGH. It is the design, the working drawings.

Mr. OBERSTAR. The working drawings?

Admiral SCARBOROUGH. Yes, the working drawings and all the details. We have laid on all the basic parameters the requirements, the machinery specs and all this sort of thing.

Mr. OBERSTAR. Is that an area where you had trouble with Lockheed?

Admiral SCARBOROUGH. No, sir. Not in the part that we did.

Mr. OBERSTAR. In the 88 percent?

Admiral SCARBOROUGH. Yes, to some extent, except that bear in mind that of this 88 percent it was a very small percentage that caused the difficulty. That is the propellers primarily and the couplings on the shaft.

Mr. OBERSTAR. Where do we stand now with the design of this icebreaker as compared to the flow chart progress on a *Polar* class icebreaker? Are we ahead or behind? Has your learning experience been applied in the design phase?

Admiral SCARBOROUGH. As we say, we are on the schedule that we have furnished the Congress, sir. Still anticipating delivery of a vessel at the date mandated by the Congress.

I might add, sir, we are hurrying on this because the Congress perceives a hurry and we respect that perception. However, that really is the only reason, although it is admittedly a very substantive one that we see that much of a hurry; that is within a couple of years period. We see the need to replace our aging *Wind* class breaker in the mid 1980's. A year or two one way or the other, we do not, from our operational needs, cannot, justify hurry. Certainly not at the expense of waste. But we are under a mandate of Congress which we, of course, will bust our backs to comply with to deliver that icebreaker on a certain date, and we are right now on track and we are going to try to do it. But, operationally, we feel we are doing the job now. Season extension is a state of mind. We are doing the job and can continue to do so with reasonable average type problems and repairs that we are going to have on older ships right along.

Mr. OBERSTAR. I appreciate that. I appreciate that the Coast Guard is carrying out the direction of Congress. Returning to the point, is the time frame now set comparable to that of the conceptual preliminary design work done on the *Polar* class? Are you within that time frame or is the time frame set by the Congress greater than that which was required on *Polar* class vessels?

Admiral SCARBOROUGH. I am having difficulty relating exactly to the *Polar* class vessels. It was done in an earlier era, substantially by the same method. At that time, we were not under any hurry from Congress that I know of. In fact, it was probably the other way around. Our problem usually is getting the money soon enough to do what we perceive we need to do, operationally.

I can only answer your question by saying I do not know of any area where we are inconsistent with where we were then.

Mr. OBERSTAR. Mr. Chairman, I ask unanimous consent to submit additional questions for the record. I have others that are much more detailed in nature which I would like answered for the record.

Mr. BIAGGI. Without objection.

Mr. OBERSTAR. Thank you very much, Admiral.

Mr. BIAGGI. I would like to ask you one question, Admiral.

You emphasized the two-compartment design. I think at the outset you said something about at least one collision a year because of the nature of the operation.

What has been the experience of icebreakers insofar as collisions, groundings and other casualties?

Admiral SCARBOROUGH. Well, I could furnish for the record a complete recap over the years. I would say we have had some serious collisions. I can think back to the 1948, I believe it was 1948, *Eastwind* collision. We have had a number of serious groundings.

What I particularly had reference to were the many minor, relatively minor half million dollar operational collisions which occur while the ship is working in the ice with other ships close aboard, escorting them, helping them maneuver and so forth. All of a sudden, a ship behind breaks clear and with the momentum goes forward and rams another one in the stern. This sort of thing is typical and it has to be anticipated and expected.

But, in addition, these ships move around in congested waters and when that happens, they are exposed to the usual or perhaps greater than usual dangers. This is a high investment piece of equipment and we feel that for the very small additional cost designing to our two compartment standard, that it is just good business to spend the additional money, whatever small amount extra it costs, to insist on it.

Mr. BIAGGI. You will provide it for the record?

Admiral SCARBOROUGH. We can provide a record of, let us say, major damages or total damages experienced by icebreakers over the years, yes, sir.

[The following was received for the record:]

Incidents Involving Groundings
and Collisions of U. S. Coast Guard
Icebreakers and Icebreaking Vessels *

<u>DATE</u>	<u>ICEBREAKING VESSEL</u>	<u>VESSEL INVOLVED</u>	<u>GEOGRAPHIC AREA</u>	<u>REMARKS</u>
JUL 46	NORTHWIND	Grounding	Dundas Hbr, Greenland	Uncharted pinnacle
1949	EASTWIND	SS GULF STREAM	North Atlantic	B-2 engineroom flooded, fire frames 31-105 extensive damage
1965	SOUTHWIND	Grounding		
AUG 67	NORTHWIND	USNS PINNEBOG	Chukchi Sea,AK	Slipped out of notch, minor damage
SEP 67	NORTHWIND	Towed barge	Chukchi Sea,AK	Minor stern damage
MAR 68	SOUTHWIND	Grounding	Palmer Sta,ANT	Uncharted rock pinnacle extensive damage
APR 68	MACKINAW	Tanker ROCKET	Buffalo,Lake Erie	Minor stern damage in escort
APR 68	EASTWIND	SS ROBERT C.NORTON	Buffalo, Lake Erie	Moderate damage, Bow, above waterline
FEB 69	SOUTHWIND	THALA DAN	Wilkes Sta,ANT	Minor stern damage to flight deck in escort
Winter 69-70	WLB	Towed barge	3rd District(NY)	Holed above waterline, stern
JAN 70	GLACIER	Grounded on ice berg	Bismark Strait,ANT	Hull damage,bent frame near keel,minor tank flooding
FEB 71	STATEN ISLAND	Grounding	Enderlyland,ANT	Uncharted pinnacle, flooded 4 comp
MAR 71	GLACIER	SS PHILADEPHIA	Anchorage,AK	Mooring lines parted, minor damage to both vessels
Winter 71-72	EDISTO	Grounding	Great Lakes	B-2 engineroom flooded

<u>DATE</u>	<u>ICEBREAKING VESSEL</u>	<u>VESSEL INVOLVED</u>	<u>GEOGRAPHIC AREA</u>	<u>REMARKS</u>
OCT 72	EDISTO	USNS MIZAR	N.Atlantic ice field	Tow slipped out of notch, topside damage
JAN 74	NAUGATUCK	Collision	Great Lakes	Hole above waterline, minor damage
JAN 75	BURTON ISLAND	USNS TOWLE	McMurdo,ANT	Minor stern damage
JAN 76	WESTWIND	M/V FAIRLESS	Straits of Mackinac	Minor bow damage
JAN 76	OJIBWA	Barge	Great Lakes	Towed barge over stern, extensive topside damage
FEB 76	WESTWIND	Tug HANNA Barge	St. Clair River	Structural damage to stern
MAR 76	MACKINAW	M/V CLARKE	Whitefish Bay	Crack main deck, hull, boat davit 01 and main deck damage
DEC 76	WESTWIND	M/V P.R.CLARKE	Straits of Mackinac	Minor damage
Winter 76-77	MARIPOSA	Grounding	Great Lakes	Moderate damage(OOC 63 days)
DEC 77	BRAMBLE	Collision	Great Lakes	Bow damage
DEC 77	WESTWIND	Grounding	Detour passage	Extensive damage
DEC 77	WESTWIND	MACKINAW	Detour	Collision upon refloat
JAN 78	BURTON ISLAND	USNS BLAND	McMurdo,ANT	Rammed in stern during close escort,minor top-side damage aft
FEB 78	NAUGATUCK	Collision	Great Lakes	Damage topside, boat davits
FEB 78	NORTHWIND	M/V MUNSON	St Mary's River	Topside damage,minor
FEB 79	GLACIER	USNS BLAND	McMurdo,ANT	Rammed in stern,structural & main deck damage
FEB 79	WESTWIND	M/V ANDERSON	Conneaut,Lake Erie	Stern damage

NOTE: Data based on available reports of domestic icebreaking operations, and polar icebreaker cruise reports.

Mr. BIAGGI. Mr. Bruce?

Mr. BRUCE. Just a couple of questions, more with regard to the future in an effort to achieve economy.

What is the status of the cooperative icebreaking agreement between the United States and Canada? It has been pending for some years now.

Admiral SCARBOROUGH. I hate to admit it, Captain Bruce, I think it is still pending officially. In the meantime, we have, as you well know, been carrying out cooperative icebreaking including this past winter. Based on no more than a phone call from me to Commissioner O'Neill from the Canadian Coast Guard, the *Radisson* was sent to help us out in Lake Superior. We were having some problems with the *Mackinaw* in the yard and we wanted to make sure that we had backup breaker in case we needed to, in order to get the *Westwind* in the yard on schedule for her scheduled availability in order to make her next deployment.

So we do break ice in each other's waters. As to the diplomatic status of that, I think it is still unfinalized.

Mr. BRUCE. Could we ask for a copy of that agreement to be inserted here?

Admiral SCARBOROUGH. I see no objection that it should be furnished—unless by the State Department.

[The material was not received because of State Department objections.]

Mr. BRUCE. I believe in 1975 the General Accounting Office recommended consideration of an international cooperative effort in meeting multinational icebreaking requirements of a non-defense nature. I think they had Canada in mind.

Has any thought been given to this cooperative icebreaking agreement that we were discussing just a moment ago?

Admiral SCARBOROUGH. I think de facto our agreement with Canada would be basically all we are talking about. Also, as you know, internationally in the Antarctic, we traditionally have helped one another out down there. The Japanese, the other big country, would be the Soviet Union, and I do not think we have had to call on her yet.

But I would hope if somebody got in serious trouble, perhaps we could call on them.

Mr. BRUCE. I think the part here, and this is all I want to say, Mr. Chairman, was that perhaps moving into the eastern Arctic that Canada could do work for us there and we would concentrate in another area—it might be the Great Lakes. They would then concentrate in an area where they have the expertise and capability.

Admiral SCARBOROUGH. That is a possibility but I am not so sure it would be one totally acceptable, depending on what the final definition of the Federal Government's interest in providing ice-breaking services for commercial purposes in the Arctic regions is.

Mr. BRUCE. Thank you, Mr. Chairman.

Mr. OBERSTAR. Mr. Chairman, if I may, I have two additional questions relating to the dual concept on which the Coast Guard has insisted from very earliest times, going back 4 years ago when we first began discussing a replacement icebreaker on the Great Lakes.

What are the Arctic missions planned for this icebreaker when it is not working in the Great Lakes?

Admiral SCARBOROUGH. Yes. Currently, of course, the *Westwind* which does work on the Great Lakes goes to the Arctic every year for Defense Department resupply operations.

Mr. OBERSTAR. What percentage of time is consumed in the *Wind* class expeditions outside of the Great Lakes?

Admiral SCARBOROUGH. Let us see, I have got the figures somewhere but it is more than the Great Lakes time in total. The Great Lakes time is less than 50 percent.

I would say off the top of my head about a fourth of the total. Maybe that is not fair now. What we did, of course, at the season extension demonstration, we added the *Westwind* to the Great Lakes inventory and that has been working primarily as part of the season extension demonstration project which, as you are aware, you are to get a final report this year, and I believe Congress is scheduled to decide in 1981 whether you are going to go for additional Federal involvement to extend the Great Lakes season.

So we have had a mission for the *Westwind*, we have sort of taken it out of hide as we do many areas and, Mr. Chairman, I think we are just through with the garbage situation in New York today.

Mr. BIAGGI. Good job, Admiral.

Admiral SCARBOROUGH. The Commandant has struck his garbage flag that he has been flying on his desk for several weeks now, and I believe he is going to mail it, or hand carry it over to you tomorrow.

Mr. BIAGGI. I know that members of the Coast Guard were thrilled at that experience, and they are disappointed at the termination of that activity.

Admiral SCARBOROUGH. They were originally, but they, in good style, took it in good humor, and every cloud has a silver lining, and I believe it was a net gain for us up there, in fairness. But I did not mean to digress, but I thought the chairman would be particularly interested in that.

We have been able to use the *Westwind* in there, but we have had jobs for her, and the *Northwind*, which are the two remaining conventionals, the older *Polar* class vessels which we have now.

Let me see here, as far as total for domestic and polar breaking, we have a figure for domestic breaking, average for the last 6 years, for which we have tabulated here, 1,209 for the *Mackinaw*, 1,120 for the *Westwind*, or *Northwind*, depending upon which one was in. But for the polar mission, for the *Northwind-Westwind* was 1,165.

So, in other words, the ratio we are looking for is the polar icebreaking was approximately seventeen twenty-sevenths, whatever fraction that turns out to be.

Mr. OBERSTAR. Could you then supply for the record: The kinds of missions, the work performed in those polar expeditions via the present *Wind* class, and anticipated for the new class icebreaker?

Admiral SCARBOROUGH. We can, indeed, sir.

[The following was received for the record:]

ICEBREAKER USE

It is anticipated that the Wind Class icebreakers and their replacements will be used essentially as they have been in recent years.

The *Westwind* and her replacement will normally participate in Arctic East Summer operations. These summer operations include escort of resupply vessels calling at Thule and Kulusuk, Greenland to support DOD installations, support of DOD and Coast Guard research programs in waters adjacent to the east and west coasts of Greenland, and support of U.S. Navy exercises.

Northwind, and her replacement, will normally also participate in these Arctic East Summer operations. Additionally, this icebreaker will provide any required icebreaking support for the Spring Opening of the St. Lawrence Seaway and support DOD research in the vicinity of Greenland during winter and spring.

Mr. BIAGGI. Thank you very much, admiral. As I said at the outset, when that tug problem developed in the city, I am not so sure that it was really the kind of service that had been anticipated. In the long run it is a credit to the Coast Guard, they responded to a crisis. In the long run I think it is a kudo for the Coast Guard.

Admiral SCARBOROUGH. I would like to state, not only to add a little humor to the proceeding, but to indicate that the Coast Guard never knows what it is going to have to do next. We have somewhat of an aversion, for that reason, to designing or buying facilities that are constrained for one particular mission, or one particular area of operations, because we might have to do other things.

Mr. BIAGGI. When the question of Finnish icebreakers arose originally, and after we heard from some members of the Coast Guard, as well as others who were interested, I questioned the capability of the Coast Guard to effectively create a dual draft multipurpose icebreaker. Apparently there is a breakthrough in technology, as testimony seems to reveal, and its effectiveness has increased substantially.

We are not really inclined to buy foreign vessels, but if foreign vessels are the only ones that can do the job, we must not lose sight of the fact that the job has to be done.

Thank you very much.

Mr. DE LA GARZA. Mr. Chairman.

Mr. BIAGGI. Mr. de la Garza.

Mr. DE LA GARZA. I apologize, I had to go next door to a very important vote on another committee.

Admiral, I just want some information. You mentioned—was it controlled pitch or variable pitch propellers? What is the proper terminology?

Admiral SCARBOROUGH. The proper terminology, I am told by the engineers, is controllable pitch.

Mr. DE LA GARZA. Are you acquainted with the mechanics of it, or do I ask someone else?

Admiral SCARBOROUGH. Let me have Captain Mann go into details on the mechanics. It is a whole lot of linkages, and gears that are hydraulically operated that move the blades.

Mr. DE LA GARZA. I would be very interested in learning how it works.

Captain MANN. It is extremely complicated to explain. However, in simplistic terms—

Mr. DE LA GARZA. Let me ask you—is the pitch controlled by the pressure exerted on it automatically or is it controlled by a person?

Captain MANN. The person who wants to put the propeller in a direction, say ahead, or astern, actually changes the blade configuration by rotating the blade. This is done hydraulically, so that all blades rotate together at the same time, hydraulically, and then with linkages the propeller responds to the signal that the captain of the ship, for example, wants the propeller to go to. There is a feedback device which makes sure that the propeller goes exactly to where the captain wants it to go and no further.

Mr. DE LA GARZA. You mentioned the gear, it is like an airplane propeller, it has a different pitch that you can adjust for different conditions?

Captain MANN. Yes, sir.

Mr. DE LA GARZA. You are not speaking solely of forward or reverse?

Captain MANN. No, it has an infinite variability to the control, and this is done hydraulically.

Mr. DE LA GARZA. Then this is up to the individual to control. It has nothing to do with ice pressure on it?

Captain MANN. No, sir, it has nothing to do with ice.

Mr. DE LA GARZA. It has no automation at all, it is controlled by the individual, or by the engineer, or by whoever?

Captain MANN. Well, the propeller does not know what it is going through, whether it is water or ice. The propeller knows what the signal is that came from the captain. We do have an overload control on the propeller, but—

Mr. DE LA GARZA. At x pressure?

Captain MANN. At particular force, the propeller pitch will back off.

Mr. DE LA GARZA. Another question I think probably that explains it, at least to the layman. The other question I had was on your dual use.

I was not too sure, and again, I apologize for not being here, the bow propellers, are those for polar conditions, or for the lakes?

Admiral SCARBOROUGH. Basically for inland waters, or the lakes. A breaker that hits the cold, hard ice in the polar regions cannot withstand having propellers up forward that are going to be constantly butting into the hard ice. So the bow propellers, we have bow propellers on the *Mackinaw*, which can operate only on the Great Lakes. They do make the vessel more maneuverable, and have many advantages in certain types of ice. But they are impossible for others.

Mr. DE LA GARZA. This icebreaker then, in order to have the dual capability, wouldn't its operation be diminished in the lakes by not having the bow propeller?

Admiral SCARBOROUGH. As I said earlier, sir, it is a compromise, so to some extent, yes, it will diminish each capability slightly. But those diminished capabilities will still be well within what we figure our needs actually are.

I would add, there is nothing magic about our concept of dual draft. The *Westwind* is doing a dual purpose. The *Westwind* is now a dual purpose icebreaker, as are most.

I think this is of material significance, primarily to distinguish it from one that is a single purpose vessel. You see, they can only be used in one place.

Mr. DE LA GARZA. I agree with you. I am sympathetic with the dual or triple, or as many uses you can effectively have. I think that would be the best, under the circumstances, if you can still carry it out initially. I am not faulting it. I am just asking for information.

Admiral SCARBOROUGH. Yes, sir.

Mr. DE LA GARZA. There has not been an icebreaker within 3,000 miles of where I live, so you can imagine the ignorance in this respect.

Admiral SCARBOROUGH. I might add, sir, you have a few other problems down there, though, that I am somewhat familiar with.

Mr. DE LA GARZA. The next question that I have concerns the crew. One of the statements, expressed a concern on the time that the crew would be on call, or the time that the crew would be on the vessel. Could you address yourself to that?

Admiral SCARBOROUGH. We designed the *Polar* class breakers to operate more than our 180 day standard per year. The concept being that we thought we could replace three *Wind* class type breakers with only two of these, but in order to do so, we would have to provide additional personnel, in the form of additional crews for those hulls. This is similar to the Navy's blue and gold concept that they have used for their nuclear submarines, except they have done it by and large with two crews for one hull.

We were planning three crews for two hulls. We have not yet implemented that concept for these two ships, pending resolving these initial problems we have experienced. But we have needed the people for continued maintenance, and we hope very soon to implement the operation the way it was envisaged in the first place.

Mr. DE LA GARZA. One final question. This is on the dual use. What is the steaming time from the lakes to Arctic use—

Admiral SCARBOROUGH. How many days?

Mr. DE LA GARZA. Yes.

Admiral SCARBOROUGH. About 12 days is our estimate. Of course, from an east coast port. We berth the *Westwind* on the lakes mainly for convenience for the crew, to allow them to be with their families as much as possible.

Mr. DE LA GARZA. I guess my question is, At what times is it compatible with Arctic operations and Great Lakes operations, without having to steam from one place to the other?

Admiral SCARBOROUGH. Yes, sir. Generally speaking, we need it in the Arctic when we do not need it any longer in the Great Lakes. Although it is close in the spring, we do not have any excess time usually. If the winter season lasts long in the lakes, it sort of cuts into our readying time for the Arctic mission.

Yes, the two missions are compatible in that regard, yes, sir.

Mr. DE LA GARZA. The final question, Admiral, would it be compatible with your operation to invite a Member of Congress to ride on one of those things when it is all iced up?

Admiral SCARBOROUGH. It would, indeed. I thought Mr. Oberstar was going with me in January, up to ride the 140, but press of business caused him to cancel out. You have a standing invitation, as soon as we have some ice. I do not know how long you would like to stay aboard, but we can accommodate you anything between

a 2-hour visit to maybe 4 or 5 months, if you could take off and go to the Antarctic, we would like to have you.

Mr. DE LA GARZA. That is quite interesting. Why don't we send Mr. Oberstar to Brownsville, and I will come to the Great Lakes? Thank you, Mr. Chairman.

Mr. BIAGGI. Thank you.

Admiral SCARBOROUGH. Thank you.

Mr. BIAGGI. Our next witness is Capt. Frederick Goettel.

STATEMENT OF CAPT. FREDERICK GOETTEL, U.S. COAST GUARD (RETIRED), CONSULTANT, MARINE ICE NAVIGATION, ST. LEONARD, MD.

Captain GOETTEL. My name is Frederick Goettel. In recent years I have been a marine consultant, principally in the field of ice navigation. While on active duty in the Coast Guard, I served as commanding officer of icebreaking vessels in the Arctic, Antarctic, and on the Great Lakes. I had operations staff assignments ashore which involved icebreaking programs. These were in the Great Lakes District Office, and later in headquarters. For the Arctic tanker test project of 1969, I sailed on SS *Manhattan* as senior U.S. Government representative and one of the advisers in ice navigation. I retired from the Coast Guard in 1972.

Since the beginning of the Great Lakes winter navigation demonstration program I have followed its progress. As a marine consultant I have recently been asked to give an opinion on the program which is underway to provide a new heavy icebreaker for Great Lakes service. In this connection I have reviewed related congressional reports and records of hearings, and some Coast Guard documents which describe the characteristics of the ship which is being planned.

My opinion of that is that a mistake is being made. I feel that it is serious enough that I ought to tell you what I think, so I appreciate this opportunity to appear before the subcommittee.

My remarks will outline the characteristics which I think are needed for a heavy Great Lakes icebreaker. Next, I will comment on what the Coast Guard documents indicate is being planned. Third, I will discuss briefly the differences between what is needed and what is being provided. Finally, an opinion on what is necessary to get the program back on track.

The major icebreakers envisioned by the demonstration program are described simply as being of type B, defining this as a vessel which proceeds continuously through 2 to 3 feet of ice. Also, there are draft constraints in the connecting channels of the lakes which must be met. These are minimal needs. The principal requirement for the new heavy lakes icebreaker seems almost to have been overlooked. That requirement is that the vessel have maximum feasible ability to escort other vessels through annual ice.

For this she must have high power, wide beam, conventional downbreaking hull form, bow propellers, a heeling system, good maneuverability and superior visibility all around from the bridge. Other important needs, but not in the same essential category, are a single light reconnaissance helicopter and towing gear. Other special capabilities of conventional general purpose icebreakers are of relatively little importance.

The ship which is being planned by the Coast Guard to meet this need seems to have changed some in recent weeks. I have not seen details of the most recent change, but understand that it involves a reduction in size in order to cope with rising design and construction costs. In any case, it appears that the proposed design is still for a modest sized subpolar icebreaker with capability to conduct the summer resupply operation at military bases in the eastern Arctic, and also the ability to trim the ship to a draft suitable for winter operations in the Great Lakes.

The outfit necessary for supporting the resupply mission includes a large crew, special boats, heavy helicopters, extensive communications, cargo space, and handling gear, and extra allowances of material and machinery. None of these extras is needed on the lakes.

Providing the subpolar capability will preclude having bow propellers, and will require operating in the lakes at something other than the optimum draft. There is an alternative possibility that the hull be designed for optimum capability at Great Lakes draft, in which case she would be operating at less than optimum condition when loaded for Arctic operations.

On this point it should be noted that Canada has built two dual purpose icebreakers and a third has been ordered. These ships trim to different drafts for operation in the St. Lawrence Seaway system and in the Canadian Arctic. They are reported as being very good icebreakers at either of these two drafts, but there is no question that the performance is not optimum at either.

The proposed new Coast Guard design does not provide several of those characteristics which should be maximized for Great Lakes service. Weight and beam will be limited and maneuverability, icebreaking ability, and the capability to assist other vessels when they are stuck in ice will be reduced by not having bow propellers. The extra equipment and operating personnel provided for the Arctic mission will increase building cost and operating expense. Yet all the extras will not make her a general purpose polar icebreaker.

That outlines generally what is needed and what is being planned. I will comment now on the differences and the reasons which I see for them. It appears that the proposed new Great Lakes ship is being designed for the performance of another mission, and is being adapted to accommodate to the draft limitations so that she can also provide some service in the lakes. Thus, the new lakes icebreaker is to be encumbered with unnecessary spaces, equipment, gear, and people. Her size is reduced, perhaps because of the cost of these unneeded things, thus limiting her beam and her escort ability. Because of the intention to use the vessel in Arctic waters where older ice may be encountered, there will be no bow propellers and the unique special capabilities which they provide will not be had on the lakes where they are needed.

All this sounds very critical of the Coast Guard design and I am sorry of that, because I think that it was probably proposed in good faith. I feel that the Commandant and Vice Commandant have been led astray by bad advice from their staff and by some well meant but misleading language relating to appropriations. There may also be instructions or advice from OMB or the Department.

Some of the bad staff advice involves internal Coast Guard measures of effectiveness in the use of the icebreaker fleet. The record of hours of employment in icebreaker type duty for each of the ships is one measure which has contributed to the problem.

If a ship has a high number for the year in that statistic, there is great satisfaction, for it is taken to show that there has been high utilization and great efficiency. During the demonstration project when the same *Wind* class vessel was often used both in the winter Great Lakes service and in the summer Greenland resupply mission, categorized as icebreaking duty, some high scores were developed. There is great reluctance to change that scheme of operations, because of the adverse effect on the indicated efficiency of the overall effort. The fallacy, of course, is that high usage of a relatively ineffective ship does not indicate efficiency at all—to the contrary.

With respect to the appropriation language, the difficulty lies with wording used in the appropriation of funds for design of a new Great Lakes icebreaker. The problem is that the appropriation was said to be for a replacement of CGC *Westwind*, which is the vessel that had been most often assigned to winter operations in the lakes, and which also often conducted the summer resupply mission in the eastern Arctic. How does one respond to that? If literally, the replacement vessel would be another of the old reliable *Wind* class, but this is obviously not what is wanted. The design which we have seen proposed is intended to replace *Westwind* in both mission, in apparent compliance with the appropriation. It seems clear now that this is not what had been intended by the authorization.

I think that this matter can be set straight only if this obvious misunderstanding is faced up to squarely, and clear and explicit instructions are issued by this committee. The design expenses to date should be treated as sunk costs. It may be appropriate also for there to be some special coordination on this issue with the Appropriations Committee.

Many have asked me whether I think that the new Great Lakes icebreaker has to be designed by the Coast Guard and built in the United States. The considerations cite high costs, limitations on in-house capability due to diversion of talent to the propeller-fix project, the great mass of experience elsewhere, and the long time period required for in-house design projects. With respect to construction, it seems good to build in domestic yards, but there is no reason I know why special foreign capability cannot be used to fulfill special needs.

Short of its effect on the pride of some people in the service, I see no reason why this special purpose icebreaker should not be designed and built by Wartsila Helsinki Shipyard of Finland. Wartsila has extensive past and current experience in design and construction of successful icebreakers. The yard has an outstanding worldwide reputation in the field. There would be great economies of time and money by using this source, and I believe that a vessel of the Finnish *Urho* class modified for the Great Lakes would be far more effective in that service than anything conceived to date domestically. Such a vessel would have U.S. machinery in her.

This touches on all the major points which need to be made now, and I will be pleased to answer any questions or clarify any of my remarks.

Thank you.

Mr. BIAGGI. Thank you very much, Captain.

At this point we will take a 10 minute recess in order to respond to the bells, which indicate a quorum vote.

[Short recess.]

Mr. BIAGGI. The meeting is called to order.

Captain, address yourself to the great emphasis being placed on the absence of a bow propeller on the Great Lakes.

Captain GOETTEL. What is the consequence of absence, sir; is that it?

Mr. BIAGGI. Yes, the absence. It is obviously has criticism of the Coast Guard design, which does not have a bow propeller.

I detect from that criticism that the bow propeller is an advantage in icebreaking activities.

Captain GOETTEL. Yes, sir. Well, the absence leads to the unavailability of the benefits. The absence of the bow propeller limits, to a certain extent, the maneuverability, and the ability to assist other vessels when they are stuck.

I would prefer to clarify that by outlining how the bow propeller is used.

The bow propeller directs a stream of water along the side of the hull. This provides a positive and active lubrication, making it easier for the vessel to proceed through ice, which might otherwise stick and provide friction for the hull. That is one use.

A second use is in maneuvering, it provides some of the benefits that would otherwise be provided, but are not available from the bow thruster, by going ahead on the bow propeller and backing on the stern propeller on the same side.

For example, there are forces that would tend to cause the vessel to move sideways. It is one example of the applications of the bow propeller, to improve maneuverability.

The bow propeller can be used to provide ahead, a thrust of a stream of water, which is used sometimes to help dislodge ice from around the vessel you are escorting, to assist her. The thrust of water could come from a stern propeller, but it is much more difficult to maneuver to put the icebreaker in the proper position. The bow propeller provides some assistance in just steaming continuously, by evacuating the water under the ice, to facilitate the breaking of the ice by the weight of the hull. These are the principal benefits achieved from the bow propeller.

Mr. BIAGGI. On page 3 of your statement, you state in the last paragraph that dual purpose icebreakers that have two drafts, that there is no question that the performance is not optimum. I can understand that. I think there was some testimony to that effect.

Admiral Scarborough testified there would be a diminution of effectiveness but not sufficient to impair the ability of the vessel to deal with icebreaker requirements in the Great Lakes.

What is your assessment of this statement?

Captain GOETTEL. I think it is a correct statement. The *Radisson* is one of those two that I speak of here. The *Radisson* is a good icebreaker, and she is providing very useful service. I think that

should be recognized. I included that in the statement. I do not want you to think I overlooked that. She is a compromise, however, in her ability from the deep draft to the shallow draft.

Mr. BIAGGI. Dual purpose is a compromise?

Captain GOETTEL. Yes, sir.

Mr. BIAGGI. We understand that compromise. I can see the purpose of the compromise.

The question is how much do we compromise on each of the missions?

Captain GOETTEL. Yes, sir, I agree and understand.

Mr. BIAGGI. Initially, as I said before, when we had expressed interest in the icebreaker situation, I was not satisfied that there was sufficient compromise. I thought the compromise was entirely too much and that the original design we were talking about—based on some testimony we received would have, at best, made the icebreaker under consideration for design at that time only marginal in its performance. Marginal performance is not justification for acceptance.

Now, we hear in today's testimony from the Coast Guard that there has been substantial improvement in the technology, change of design, so that they are better equipped in the pursuit of the dual-purpose concept to deal with each of the areas in a more effective fashion.

The question we put to you is that in light of what was said, and apparently occurred on the technology with the dual design, would it do the job that is necessary as far as icebreaking is concerned? Can you respond to that?

Captain GOETTEL. I would expect that a dual design could be acceptable in doing the job. I recommend as wide a beam as possible. I deplore the absence of the bow propeller because I think that is a significant loss and I think it is a mistake to provide the redundancy of equipment, the excessive personnel, the outfits of boats and cargo gear for the Great Lakes service. Nevertheless, the dual design, I do believe, could do an acceptable job.

Mr. BIAGGI. You made reference to the ability or the reduced ability in the absence of the bow propeller to escort other vessels. How much activity is there in escorting other vessels?

Captain GOETTEL. That is the principal purpose of the assignment of icebreakers to the Lakes, to assist other vessels through the ice.

Mr. BIAGGI. The perception I have is that you assist other vessels by clearing the way.

Captain GOETTEL. Yes. Ideally, the heavy icebreaker will lead a column, a single vessel or preferably a small convoy, break the ice and the other vessels will have sufficient power capability to follow behind. From time to time, one or more of the vessels in the convoy will become stuck because of ice coming up in the wake, or because of the effect of pressure ridges where windrows of ice have slowed the progress or otherwise affected it.

When one or more of the vessels become stuck, the lead icebreaker may have to break off and come back alongside and loosen her, get her moving again. The details of how the available icebreakers assist a particular convoy of vessels varies with the ice conditions, the characteristics of the vessels that are involved, how many there are, weather conditions, and lots of variables involved. But the

matter of assisting vessels through ice invariably involves much more than simply breaking the ice and leading the way for them.

Mr. BIAGGI. So what you are saying—are you telling this committee that the absence of the bow propeller is a critical element and impacts negatively to the degree that the effectiveness of the dual purpose vessel is dangerously reduced?

Captain GOETTEL. No, sir, I would not judge it a critical element. It is one element of some importance that goes into the total consideration.

Mr. BIAGGI. Mr. Oberstar?

Mr. OBERSTAR. Thank you, Mr. Chairman. Thank you, Captain Goettel, for a thoughtful and thought-provoking presentation. You touched on some very critical issues and opened areas of thought for the committee.

I have a number of questions but, right off, since you raised the point about the design and construction of an icebreaker by the Wartsila Shipyard in Finland, why couldn't the Coast Guard have simply gone out and purchased one off the shelf, as it were, with the other modest design changes mainly for draft to accommodate draft of the interconnecting channels in the Great Lakes?

First, would that have made sense and, second—would it have served the Coast Guard mission? Would it have resulted in considerable cost savings to the public and earlier delivery of the vessel?

Captain GOETTEL. I think it would have. I think it would have been a good move to make. The reasons they did not, have been outlined by Admiral Scarborough, and apparently they involve procurement problems and his concern about the two compartment standard.

Mr. BIAGGI. From your experience with icebreaker construction and ship construction, what would the additional cost be for the design changes the Coast Guard cited; this one compartment question; the matter of a shallower draft vessel. This does not seem to be a very reasonable thing to do anyway. Is that going to amount to \$30 million?

Captain GOETTEL. Well, sir, I do not think I am competent to make a cost estimate. I would prefer not. My uninformed opinion is it would not cost that much.

Mr. Oberstar, I just do not understand the argument there. I do not feel that the Coast Guard has made a case. It seems to me that when you take something out of a design, it ought to cost less, not more. What do you think are the principal characteristics for an effective Great Lakes icebreaker? I would like you to address yourself to these questions of the draft and beam and length of the vessel?

Captain GOETTEL. Yes, sir.

The draft obviously is constrained by the limitations of the connecting channels. They are currently somewhat less than project depths. I am not prepared to predict how they will be maintained. But the vessel has got to be able to operate in the connecting channels at the depth to be maintained by the Corps of Engineers. The beam should be a maximum possible. There are limitations in some of the locks. If the vessel is built outside the lakes, it would have to be brought through the Welland Canal, and I think 75 feet is about the maximum that you could get there.

But the beam should be the maximum that is possible under the conditions of procurement that apply. Maximum up to, we will say, the beam of the largest vessel to be escorted. That is considerably in excess of the 80 feet. Some are in excess of 100, but I think it is fair that you cannot achieve that beam. The length is a fallout from the design. The length is whatever length is necessary and suitable to provide the maximum weight, the whole capacity for the machinery, and I should add that maximum feasible weight—

Mr. OBERSTAR. What would be an ideal length? I believe the Coast Guard used a figure of something slightly over 200 feet.

Captain GOETTEL. I think something in excess of 200 feet would fall out as being the appropriate length for the vessel we are speaking of. But length is not an operational requirement or constraint whereas beam is important operationally.

Mr. OBERSTAR. How do the vessels now serving the lakes measure up in terms of what you would see as the kind of vessel we ought to have in service for icebreaking on the Great Lakes.

Captain GOETTEL. The new 140 that has been referred to here this morning, according to the reports I have received, are excellent vessels. They are indeed a vast improvement over the old 110-foot vessel which was quite capable but pretty small. The *Mackinaw* has been a remarkably fine Great Lakes icebreaker and a workhorse for over 30 years now, and really an outstanding vessel. But she is getting old and tired. There have been real problems, as outlined in the testimony here, about her being called out of service several weeks in the middle of the winter season because of some deficiency. They borrowed the *Radisson*. This is OK, but U.S. vessels ought to be able to get in shape for a full season operation and be operational for the full period of the winter season in the lakes, in my opinion.

Mr. OBERSTAR. The Coast Guard has said it needs a new icebreaker on the Great Lakes which also serves in subpolar missions. In your opinion, is there some other vessel that could serve that same purpose so that the Coast Guard could design a vessel to serve the Great Lakes and be fully outfitted for that service?

Captain GOETTEL. Yes, sir. I think the eastern Arctic resupply mission can be handled by something less than a full-fledged icebreaker. In these days when the supply requirements are relatively low and under the conditions that the resupply period is scheduled during the optimum weather of the summer.

In the ports that are involved, and these are Thule, Itidvlik, and Kulusuk, ice is just not much of a problem during the months of August and September, to mid-September anyway. Thin ice starts forming in the latter part of September usually.

A high strength utility vessel, not a full-fledged icebreaker, is what is called for to conduct these resupply missions.

Mr. OBERSTAR. We have here a design question, a policy question, the Coast Guard designing a vessel to serve the Great Lakes and some polar missions which can be fulfilled by a less costly vessel and probably one they already have in hand. We could then get the optimum use of the Great Lakes icebreaker?

Captain GOETTEL. Yes, sir, I think that is a good possibility.

Mr. BIAGGI. The gentleman's time has expired.

I think at this point we should call to mind Admiral Scarborough's testimony in which he stated the terms of the preliminary design as 296 feet in length with a 64-foot beam. Even though you testified that a 100-foot beam is preferable, you have to bear in mind the seaway is only 75 feet.

You talked about the loss of the bow propeller. The *Katmai Bay* has a bubbler system which has proven to be very effective. Would that not offset the loss of the bow propeller?

Captain GOETTEL. To some extent, the bubbler system is installed in order to provide some lubrication of the hull. It is to agitate the water as the bubbles run up the side. This is more of a passive lubrication system, however, than would be provided by a bow propeller which forces a stream of water. The bubbler system has no effect in the maneuvering of the vessel. It has no advantage in helping others who are stuck, so the bubbler system is only one little bit of an offset for loss of the bow propeller.

Mr. BIAGGI. Thank you, Captain.

Next we will have Vice Adm. Paul Trimble, president of the Great Lakes Carriers Association.

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

Admiral TRIMBLE. Thank you, Mr. Chairman and members of the committee.

I am Paul E. Trimble, president of the Lake Carriers' Association, representing the domestic bulk shipping industry on the Great Lakes, consisting of 130 vessels.

With your concurrence, I would like to have my statement introduced into the record and I will summarize some of the arguments. [The following was received for the record.]

STATEMENT OF VICE ADM. PAUL E. TRIMBLE, USCG (RET.) PRESIDENT, LAKE CARRIERS' ASSOCIATION

Mr. Chairman and members of the committee, I am Paul E. Trimble, President of Lake Carriers' Association, representing the domestic bulk shipping industry on the Great Lakes consisting of 130 vessels. Bulk materials are, for the most part, raw materials destined for consumer use or consumer products; they include ore, coal, limestone, cement, sand, gravel, grain and petroleum products. Approximately 200 million net tons move annually in the lakes trade. Each item is important to the Great Lakes region and the national economy in terms of jobs and consumer prices.

Transportation cost for moving needed raw materials, and particularly with the escalating price of energy, is a significant part of the price ultimately paid by the consumer whether in the form of farm products, electricity, fuel, construction materials or steel products. Lake shipping is not an end in itself but is a part of the link between the source of raw materials and the processor. If there were a cheaper, safer and more energy-conservative way of moving those raw materials, the market place would demand such use. Were it not for water transportation, taconite pellets for upper Michigan and Minnesota probably would not be able to compete with foreign ore in terms of delivered cost to many of our steel mills.

The purpose of my statement is to impress upon you the need for winter shipping on the Great Lakes of those commodities which are essential to the economy and productivity of this Nation. To make that shipping possible there is a clear need for prompt replacement of the Great Lakes icebreaker authorized in Public Law 95-61, the Coast Guard authorization for 1978.

The Coast Guard icebreaking fleet on the lakes was designed and built during the World War II era, with the oldest vessel still in operation, dating back to 1939. As might be expected, these 30 to 40 year old vessels are tired and largely obsolescent, not only in terms of parts support and durability but also power and capacity, and above all in crewing and crew accommodations. It is only through sheer dedication

and perseverance of Coast Guard crews that the vessels are able to log as many operating hours as they do.

Expansion of pellet production from about 55 million tons to 80 million tons will be completed by the early eighties, as will more new vessels to carry that ore. In 1970 the average age of the lake fleet was over 45 years; by 1980 it will be between 35 and 40 years. New and recent construction for the most part will be more capable of winter navigation with adequate power, high tensile strength steel plating in the forward area, strengthened scantlings, the latest navigation equipment and crew comforts * * * but will still be dependent on icebreaking to keep key navigable channels open.

Western coal traffic is in its infancy so has not yet developed to the point where winter sailing is required. Present planning and construction point to the early 1980's when that traffic will be very much in the picture, primarily with added new vessels constructed for a trade extending from Duluth/Superior to Buffalo. The latter port could be a coal distribution point for utilities as far east as New England.

It is 1980 and beyond that the lake shipping industry has been working towards with the extended navigation season demonstration program, fleet replacement and expansion. Both of these actions are directly related to the national economy in support of steel production projections, as well as western coal movement as part of the national energy goals. Moving these cargoes and other bulk materials at the lowest cost, lowest rate of energy consumption and environmental cost is, of course, our goal to improve the competitive effectiveness of the U.S. industries involved.

Because of the capital intensity involved in terminals, both loading and unloading, and vessels, plus the fact that there are only two lake shipyards capable of constructing the vessels required, and one of those has been closed because of a strike since August 15, 1978, it is quite probable that new handling capacity will not keep pace with increased western coal consumption and ore demand in the lakes region. All in all, this results in an even greater reliance on a longer navigation season, and concomitantly, reliable icebreaking. The capability of vessels to operate during some or all of the winter months with icebreaking assistance affords some flexibility in coping with national emergencies, especially those resulting in increased or unexpected raw materials or energy needs, weather related, defense related, or otherwise.

The key is reliable icebreaking! Industry is going forward with expanded pellet production, western coal handling terminals and new vessels. As we proceed, we are assuming that principal navigation channels will be kept open to meet these reasonable needs of commerce, and important segment of the national economy. Icebreaking to assist in the movement of commerce goes hand in glove with navigational aids to mark channel limits and dredging to maintain control depths and keep channels usable.

It is the projected widespread shipping in the early 1980's in relation to the Coast Guard's World War II vintage icebreaking vessels on the lakes that concerns us. Except for that old workhorse, the *Mackinaw*, none were especially designed for Great Lakes icebreaking. Replacements for some of the smaller vessels have been completed and several will be on scene for the winter of 1979-1980.

Urgent at this point is a reliable and more effective large icebreaker to share the load in major channels with the *Mackinaw*, various *Wind* class 1940's built deep draft polar icebreakers have been used by the Coast Guard for this purpose, the latest being the *Westwind*. Usable draft is achieved by carrying less fuel. The breaker then has to cease operations every few days to refuel, and also must confine its movements to deep channels, both of which restrict its icebreaking prowess. On top of this for both the *Wind* class and the *Mackinaw*, icebreaker design technology has materially advanced since World War II.

The past winter we have just been afforded an excellent test of icebreaking procedures, equipment and stamina. What was not typical was the critical need for pellets and stone to support the steel industry, and oil to support utilities and industry consumers. This resulted in a need for more fleets and more vessels to be operated under deep winter conditions.

This past winter 18 companies operated 56 vessels on the upper lakes during January. The vessels loaded at Duluth/Superior, Two Harbors, Silver Bay, Taconite Harbor, Marquette and Escanaba, and unloaded in lower Lake Michigan ports, also Detroit, Toledo, Lorain, Cleveland, Ashtabula, and Conneaut in Lake Erie; cement at Alpena and Charlevoix to support the construction industry; and oil at various refinery docks * * * Chicago, Sarina, Toledo and Buffalo. Operations out of Marquette continued until January 21, out of Escanaba until February 12, and from the head of the lakes to the Chicago area throughout the winter because of an extremely critical need for pellets.

Ice conditions in Lake Erie early this past winter resulted in a termination of commerce to those ports before the end of January. It is quite probable that a modern icebreaker, such as that contemplated in Public Law 95-61, would have permitted navigation longer into the winter. It should be noted that navigation from western Lake Superior to the Chicago area has continued throughout the winter. The icebreaker designed for Great Lakes service, the *Mackinaw*, continues year after year to demonstrate a superior icebreaking capability to that of the deeper draft multi-purpose icebreakers designed principally for Polar duty.

Winter shipping on the Great Lakes to satisfy this nation's expanding raw material needs can only be accomplished with the provision of a second large icebreaker. With the Coast Guard designing the icebreaker we can expect 3 to 7 more years before the vessel is ready for service, depending upon the procurement method utilized. If the construction contract were on a performance basis with no line drawings furnished, this would not only speed up and simplify the procurement process but should also reduce overruns and claims. To the industry that translates to 1982 to 1986.

Design criteria for the replacement icebreaker, in addition to the latest technological innovations, should include such considerations as:

- (1) Draft of 20 to 21 feet for optimum use in essential lake channels and harbors.
- (2) Innovative crewing for sustained operations through the winter season, including round-the-clock where needed.
- (3) Propulsion power sufficient for sustained operations with multiple or other crewing, as well as operating in heavy brash and rafted ice such as has been frequently experienced in recent winters on Lake Erie, Lake St. Clair and the St. Mary's River; also to support innovative towing in brash ice when appropriate.
- (4) Notch towing equipment, quick-connecting and release, with crew-reducing closed circuit TV monitoring from the bridge, for use when needed in brash ice.
- (5) Crew comfort considerations supportive of sustained operations.
- (6) Bow propellers or air-bubbling systems of proven advantage to improve efficiency.

I understand that at least ten U.S. shipyards have indicated interest and capability of bidding on such an icebreaker design and construction contract on a performance basis, as well as Wartsila Shipyard in Helsinki. This information portends a lively interest and competition for the contract. It should be noted that the Navy now generally follows the design and construction contract procedures very successfully. The Committee may also be interested in the fact that the lakes icebreaker *Mackinaw* came into existence on a design and construct contract basis, the design being accomplished by the Naval architect firm of Gibbs and Cox.

Since icebreaking is not an end in itself, whereas movement of commerce is, cost benefit calculations should reflect such accomplishment on a reasonable time frame basis rather than solely in terms of icebreaking capability. This approach is compatible with the 1936 Executive Order that provides as follows:

"The Coast Guard is directed to assist in keeping open to navigation by means of ice breaking operations, insofar as practicable and as the exigencies may require, channels and harbors, in accordance with the reasonable demands of commerce."

Effective movement of commerce is vitally important to the economic well-being of this nation. Consequently, from the lakes point of view, we strongly urge a breaker designed for optimum effectiveness on the lakes, one whose availability we can rely on. One built for dual use in the Arctic, such as the Coast Guard is planning, will necessitate drastic compromise. We do appreciate the reasoning favoring such dual use, but it is fraught with hazards in terms of reliability for lake shipping:

* * * Damage in the Arctic during the summer could result in unavailability for use in the lakes in the winter.

* * * Unless innovative crewing is used, personnel will not be able to hold up under almost year-round operations. This may well restrict round-the-clock or sustained operations on the lakes, thus impacting on the movement of commerce.

* * * Operations in the Arctic will preclude use of bow propellers that have been found to be effective in the lakes and also the Baltic Sea through the years.

* * * Vessel will not be of optimum draft design for either Arctic or Lakes.

* * * Recent *Wind* class icebreaker dual-draft experience belies the proffered hope for a "new" cost-effective and efficient dual-draft design.

What I have said about icebreaking support for domestic bulk shipping has equal application to ocean traffic in main channels of the lakes as soon as a longer navigation season is an actuality through the St. Lawrence Seaway.

Lake shipping appreciates very much the interest the Committee has shown in the Coast Guard's icebreaking equipment and capability on the lakes.

Admiral TRIMBLE. Mr. Chairman, our members are in the shipping business so we are interested in the effective movement of commerce. We are interested in moving commerce effectively over the longest period possible economically and environmentally feasible on the Great Lakes during the year. Icebreakers are a very important ingredient of effective movement of commerce on the lakes.

We are talking about replacement of icebreakers today. We are very interested in the timeliness of the initial availability of the replacement icebreaker. We are interested in its performance capability. We are interested in its availability during the icebreaking season. Just to expand on those points a little bit, timeliness of initial availability.

I heard the Coast Guard testimony indicating that their replacement plan for the *Westwind* was something in the 1986 area so, seemingly, except for Congress direction, they had no particular need for replacement before that time. I surmise that the Coast Guard—that that date is based on internal Coast Guard planning factors such as age and condition of the vessels, because I am not aware that there has been any coordination of that date, replacement date, with the needs of commerce; in other words, coordination as far as expansion on the Great Lakes or the need to remove additional western coal or other products. That is another reason why we appreciate the Congress action in pressing for a replacement at the earliest possible date.

Performance capability: You have heard the professional icebreaker skipper, Captain Goettel, talk about performance requirements. I certainly concur with his general conclusions. As far as performance is concerned, I note the Coast Guard criteria is to break so many inches of ice, primarily blue ice. This is an interesting statistic but one that only occurs about once a year, and that is at the initial stage of ice formation, when it is first formed. Really, after that, we have conditions that are refrozen ice; we have rafting and we have brash ice. We have those three conditions that have to be gotten through as far as the icebreaker performance is concerned in order to move commerce.

The requirements are somewhat related as far as the performance capability is concerned, but for movement in refrozen ice, the horsepower and the capability of moving, whether you have the bow propeller or whether you use an air system—probably the bow propeller is the more important of the two features. We are not particularly interested in how we get the capability as far as my members are concerned. We are just interested in the capability.

As far as brash ice is concerned, essentially horsepower capability is needed to press through—brash ice is something like oatmeal. Probably it even goes to the bottom of the lake in the shallower areas. So it takes sheer force to move through it. Coupled with force is a capability of towing when that situation demands. We have had a number of occasions where a vessel is in a slug of brash ice and sits there for several days trying to get through it, whereas if the icebreaker had the capacity of quickly connecting on with a notch-type towing equipment, quick acting and release with TV monitoring and with good visibility from the bridge, the vessel

could have been pulled through and released and traffic would be moving instead of being held up for 3 days.

So there are a number of peculiarities on the vessels needed for lake breakers that are not needed in the subarctic as far as supporting some of the defense bases are concerned.

The other item, availability during the icebreaking season, we are in the shipping business but that does not mean we can turn it off and turn it on from month to month. This is a matter of long-range planning starting with pellet production or building of coal handling facilities for the movement of the product. In other words, trips are based on those production plans; they are based on the industrial production forecasts or the utility consumption of energy. So this is something we have to look at at the beginning of the year. We cannot wait until November to say, gee, did our icebreaker get back from the Arctic? If it had some trouble and did not get in before the seaway closes, we are left high and dry after our long-range planning as far as our operations on the Lakes are concerned.

Mr. BIAGGI. How often does that happen?

Admiral TRIMBLE. It has not happened, because it has only been in the recent years that the Coast Guard has talked about dual purpose. The *Mackinaw* is a single purpose designed for the Great Lakes, and its superior icebreaking capabilities are very important.

Mr. BIAGGI. I see Captain Rutledge is here.

Do you care to respond to that question?

Captain RUTLEDGE. We anticipate that the *Mackinaw* will be there until the year 2000, and of course, it is going to stay on the lakes. The other vessels would just be offsetting that. It has not happened to date that we have been unable to provide icebreaking services on the lakes as needed.

Mr. BIAGGI. Let us stay with that just a little bit longer. The admiral indicates we have not had dual mission vessels, icebreakers, in that area. Assuming that we get one in place, what would be the prospects of it coming to the lakes on time?

Captain RUTLEDGE. We have been using it similar to the *Westwind* and the *Northwind*. They have been exactly as dual draft vessels these past several years, and we have yet had that experience, even though there have been minor problems in their operational utilization. Last year the *Westwind* had a grounding, but that did not deter it—it was not related to the Arctic operation. That was a lakes operation.

So the conjecture that it would happen, in our view, is just that. It has not happened in the past. We do not envision that happening in the future.

Admiral TRIMBLE. My statement is that it could happen, not necessarily that it would. This is just another factor, as far as our planning is concerned.

As far as the cost-benefit planning for single purpose, or a multipurpose vessel, we have heard the statistics. In addition to the ones that are cited, we have to look at comparative costs. You have already raised that question, the multipurpose versus the single purpose. We have to look at the differences in crewing. We have to look at the difference in capability. We also have to consider the

impact on numbers of icebreaking vessels that may ultimately be required on the lakes.

In other words, by going to multipurpose type vessels, it is possible that you might require an additional vessel over that required if we had a more capable single purpose one, such as the *Mackinaw*. You probably are aware that the *Mackinaw*, which has been a very capable icebreaker, through her many years in service, was the product of a contract for design and construction by Gibbs & Cox.

I think Gibbs & Cox are in your area of New York. But it is a very outstanding architectural firm. I would just like to read a few paragraphs of my statement, Mr. Chairman.

Mr. BIAGGI. You made reference to the testimony of Admiral Scarborough, where he said they would not be able to get one in place until 1986. If I recall correctly he said 1984. We are working about a 4 or 5 year period.

How long do you think we could get one in place, if we got a *Radisson*, or a Finnish icebreaker with modifications?

Admiral TRIMBLE. About 2½ to 3 years. My reference to Admiral Scarborough's testimony was that as far as Coast Guard planning is concerned, 1986 was when their scheduled replacement of the *Westwind* would take place, but with Congress direction they are proceeding at full force to get it replaced earlier, and it now looks 1984, in other words, about 5 years from now.

Mr. BIAGGI. This vessel that is in its preliminary design stage, in your judgment, would it provide superior icebreaking capacity to the existing situation?

Admiral TRIMBLE. Yes, it would provide superior icebreaking capacity to the existing situation, to the *Westwind*, that it would replace.

Mr. BIAGGI. Would it be a marked improvement?

Admiral TRIMBLE. It would be a marked improvement.

Mr. BIAGGI. How much less, in a relative sense, would it be to the Finnish or the Canadian icebreaker design?

Admiral TRIMBLE. I am not in a good position to answer that, Mr. Chairman. I think that the Finnish one is 22,000 horsepower, whereas this would be something in the neighborhood of 13,500. We can look to some extent to a comparison of the amount of horsepower offered. The Canadians would be about the same horsepower as Coast Guard is planning, as I understand it.

From last year's survey I understand that at least 10 U.S. shipyards have indicated interest and capability of bidding on such an icebreaker design and construction contract on a performance basis, as well as Wartsila Shipyard in Helsinki. This information portends a lively interest and competition for the contract.

If the committee has any questions, I will be glad to try and answer them, Mr. Chairman.

Mr. BIAGGI. Does the *Radisson* have bow propellers?

Admiral TRIMBLE. No.

Mr. BIAGGI. How about the Finnish vessel?

Admiral TRIMBLE. One class that was being discussed does have a bow propeller. The larger ones, that are built for polar duty, do not use a bow propeller.

Mr. BIAGGI. One of the very distinct advantages that these foreign vessels seem to have is the ability to be delivered more quickly. The gentleman from Minnesota characterizes this purchase as off the shelf.

We have always expressed concern for the commercial aspects of the Great Lakes, and it is important to the country and the economy. It should be kept open on a year-round basis, and probably even to a greater degree than it is kept open now. To delay unnecessarily is to perform a disservice; 2½ years is substantially superior to your 5. We will keep that in mind, and the cost is substantially less. That deals with two of our three concerns.

The third is its effectiveness and icebreaking capability. I am satisfied that whatever the difference is each will give effective service, but two of the three concerns are important, and we are grateful for your testimony.

Mr. Oberstar?

Mr. OBERSTAR. Thank you, Mr. Chairman.

Again, Admiral Trimble, with your extensive knowledge of the Great lakes, we are very grateful for your participation in the committee's hearings.

In view of the testimony earlier by the Coast Guard, do you think the Coast Guard's timetable is on track? Are they proceeding at a reasonable rate? Are they ahead of the pace, or behind? Please consider Admiral Scarborough's comment that they are being pushed a little faster than they might go on their own.

Admiral TRIMBLE. I think that the Coast Guard is proceeding at its most capable pace, and as Admiral Scarborough indicated, if they were left to their own planning they would look toward 1986 as a replacement time for the *Westwind*, so they have moved it up 2 years; I am convinced that they are working at a good pace.

Mr. OBERSTAR. They needed to have a little addition applied to their initial instinct to move slower.

Admiral TRIMBLE. It helps when there is an indication of interest on the Hill, which probably means that there might be some appropriated money to build. If you do not have that indication, then there is not perhaps the same incentive.

Mr. OBERSTAR. There was a good deal of discussion earlier about the size of the vessel and of the crew. What is your reaction? Is the design plan by the Coast Guard going to be adequate for the Great Lakes, in beam and length and draft?

Admiral TRIMBLE. Congressman Oberstar, I prefer to defer to the professional icebreaker operators as far as the specific dimensions of width and so forth. As far as crew size, certainly we are interested in the minimum crew size that could do the job effectively. I feel that the crew size of the World War II-designed vessels, both the *Mackinaw* and the *Westwind*, is very high. They were designed for a different era, and perhaps for a different purpose.

Today's technology, and today's requirements should permit material reductions in the number of people required. As I understand it, the Finnish-designed vessel is designed for a crew of less than 60.

Mr. OBERSTAR. The Coast Guard was talking about 125, and allowing room on board for scientists. They are out there to break ice and get the ore boats through.

Admiral TRIMBLE. That is true, and that is one of the advantages for single purpose. If you are going for a vessel that operates in the Arctic, there is a desire, an insatiable desire on the part of the scientific community to have people on board to take advantage of this taxpayers' icebreaker up in the Arctic to make observations. This is an understandable desire.

The lakes are accessible during the winter by other means, so it is not necessary for the scientists to accompany the icebreaker to get desired observations.

Mr. OBERSTAR. To return to the question of the bow propeller which the chairman has discussed in detail. What are the characteristics of polar ice that make use of bow propellers difficult there? What are the characteristics of Great Lakes ice that make bow propellers so useful?

Admiral TRIMBLE. The Great Lakes ice is, of course, fresh water ice, and is not as thick or as many ridges as you might have in the Polar or Arctic area. You may have more rafting conditions and thick ice to have to penetrate. The Wind class icebreakers, Congressman Oberstar, were initially designed with bow propellers.

In addition, the *Mackinaw* was, of course, designed with a bow propeller, and this goes back to the experience of the car ferries on the Great Lakes, back at the turn of the century. That is when the bow propeller design was first used very effectively. So it was put into the Wind class vessels, as well.

When they were tried out in the Arctic, they had trouble, breaking propeller blades, and so forth, and it was found not practical, so they were taken off shortly after the first year of operation.

Mr. OBERSTAR. Having the bow propeller makes a significant difference in the Great Lakes icebreaking capacity?

Admiral TRIMBLE. Yes. The *Mackinaw* has a bow propeller, and she is considerably more effective than the *Westwind* in breaking the Great Lakes ice.

Mr. OBERSTAR. Apart from bow propellers, what other characteristics in vessel design are necessary for service outside of the lakes?

Admiral TRIMBLE. Essentially the same characteristics possibly as we desire on the Great Lakes. You probably do not have brash ice conditions in the Arctic, for example, that we have on the Great Lakes. So it might not be necessary to have quite the same towing characteristics as we would like to see for quick connection and quick release, in other words, rapid movement of commerce on the Great Lakes. We certainly would like to have good visibility. I am talking about high visibility as far as the bridge operation is concerned, not only looking ahead, but also looking aft, because if you are on an icebreaker, that means normally you are out in front, and the ones you are leading, or working with, are going to be behind you. So being able to look out from the pilot's station on the bridge and see a stern is a very desirable capability. This is not always possible because of the presence of stacks and masts, unless you have designed the vessel with an offset condition so you can see aft, or you may have a television monitor, which would help as far as the towing situation is concerned.

Mr. BIAGGI. I meant to ask that question on visibility when Captain Goettel testified. I am not familiar with the preliminary design. Perhaps Captain Rutledge can respond to that.

Would the new vessel have the ability to observe the vessels that follow, as well as clear visibility ahead, or would there be some obstructions?

Captain RUTLEDGE. These concerns are being taken into consideration in the design process, Mr. Chairman.

Mr. BIAGGI. Thank you.

Admiral TRIMBLE. One other feature that is desirable, I think, from the point of view of the morale of the crew—which is not exactly our problem. Our concern is the impact of bad morale could result in the unavailability of vessels or its performance. Comfortable accommodations for the crew, thus getting the crew out from below the hull envelope where noise and vibration is heaviest, would help, especially where prolonged operations are involved.

Mr. OBERSTAR. That is a very important consideration. What other mission could the icebreaker perform on the Great Lakes if it were not a dual or multipurpose vessel, when it is not breaking ice? What would occupy its time the remainder of the year?

Admiral TRIMBLE. There are only limited uses that it could be put to. I think the Coast Guard has tried to maximize the *Mackinaw's* use by having cadets on it for training purposes from the Academy, for training missions; and then for general participation around the lakes, in various events where the public wants to see what facilities the Government does have.

Mr. OBERSTAR. The Coast Guard has made much of needing to press this vessel into service elsewhere after icebreaking work is concluded. They do not take the *Mackinaw* from the lakes and put it elsewhere. I do not understand why we have the new icebreaker on the lakes serve some purpose that the others do not.

Admiral TRIMBLE. I am sure that they are trying to achieve the best utilization of their facilities. If I were in their place, I am sure I would be thinking the same way. But I am not in their place. I am looking at it from the point of view of commerce, so my direction is quite the opposite from the Coast Guard.

Mr. OBERSTAR. At the hearings on the Coast Guard appropriations in the other body last year, you submitted some information about the interest of various shipyards, including the Wartsila Shipyard of Finland, to bid on icebreakers for the Great Lakes.

Could you update that information for the committee?

Admiral TRIMBLE. Yes, Congressman Oberstar, I would be happy to. I have tried to keep in touch with what is going on in the icebreaking field as far as vessels that may be usable on the Great Lakes.

I do have a message from the Wartsila Shipyard, dated June 21, 1979, addressed:

To Whom It May Concern: The Wartsila Shipbuilding Division is prepared to design and construct a 22,000 shaft horsepower URHO type icebreaker, modified in draft and other respects, for operations on the Great Lakes, according to U.S. Coast Guard requirements, and including U.S.-made components where applicable. It is estimated that such an icebreaker, built to U.S. standards, would be delivered approximately two and a half years from the date of an order with guaranteed performance, and at an estimated price of about \$60 million U. S. dollars, depending on the time of delivery and modifications required.

Furthermore, the Wartsila Shipbuilding Division is prepared to undertake the design and construction of any other icebreaker for the Coast Guard, to fulfill any and all reasonable operational requirements, and guarantees as specified by the U.S. Coast Guard, and to deliver such an icebreaker within 2½ years from the date of an order, assuming normal procedures of design approval and inspection.

Moreover, the Wartsila Shipbuilding Division is prepared to submit a formal proposal for the design and construction of such an icebreaker upon the receipt of operational requirements and other specifications at the lowest possible cost based on Wartsila's unique capability and expertise as icebreaker builders.

That is signed by the chairman and chief executive of the company.

By "other specifications," I understand that to mean two compartments, if two compartments were included in the Coast Guard specifications.

Mr. OBERSTAR. I understand there is a representative of the Finnish shipyard here. I wonder if we might just ask one or two questions of the representative in connection with Admiral Trimble's message?

Mr. BIAGGI. The Chairman is flexible.

Mr. OBERSTAR. We have Mr. Eero Makinen. Would you please come forward and identify yourself? Please give your name and position with Wartsila.

Mr. MAKINEN. My name is Eero Makinen. I am manager of Arctic Design and Marketing Department of the Wartsila shipyard. I am responsible for the development and research of icebreaking vessels, including icebreakers, and also responsible for icebreaking technology research at our shipyard. I have worked about 10 years in Wartsila. All that time I have been involved in design and research of icebreaking vessels.

Mr. OBERSTAR. Regarding modifications of an *Urho* class vessel, what modifications would be required for operation in the Great Lakes, to suit the Coast Guard needs?

What would be the cost of those design changes? Would they require an increase above the price of the \$60 million that has been certified by Wartsila? What effect would those design changes have on the time of design construction and delivery of the vessel?

Mr. MAKINEN. With respect to the modifications, they are not major ones. For example, two compartment standards, that is a design consideration, not a major item. Same relates to crew accommodations, and of course, use would be considered to the greatest degree. Also fuel capacity, and things like that, they are just design considerations.

As regards costs involving these modifications, it is not a question of \$30 million. It depends quite much on the specific requirements of the Coast Guard. But I would say that it is a question of, maximum, couple of millions of dollars.

Mr. OBERSTAR. When Wartsila builds icebreaker vessels for other countries, is it customary for the company to deliver to its own specifications, or to the specifications of a country ordering the vessel?

Mr. MAKINEN. In normal cases we work so that we discuss the operational requirements with the customer, and we, on the basis of these requirements, make a design.

Mr. OBERSTAR. You are used to adjusting your design to the needs of the customer?

Mr. MAKINEN. Yes. We are responsible for the whole technical design work.

Mr. OBERSTAR. Thank you, Mr. Makinen.

Mr. BIAGGI. Does your company intend to bid on the Coast Guard contract?

Mr. MAKINEN. Yes. In case that is the only way to do it, and to be involved in this, we are prepared to do that also.

Mr. BIAGGI. Thank you very much, admiral and Mr. Makinen.

Mr. OBERSTAR. Mr. Chairman, I know this hearing has gone longer than anticipated but before the subcommittee adjourns, I want to thank you again for the time you have given to the question of service on the Great Lakes.

Mr. BIAGGI. Greater love hath no man.

The meeting is adjourned.

[Whereupon, at 12:20 p.m., the subcommittee adjourned, subject to the call of the Chair.]



