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# VESSEL TRAFFIC CONTROL

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HEARINGS  
BEFORE THE  
SUBCOMMITTEE ON  
COAST GUARD AND NAVIGATION  
OF THE  
COMMITTEE ON  
MERCHANT MARINE AND FISHERIES  
HOUSE OF REPRESENTATIVES  
NINETY-FOURTH CONGRESS

ON

## VESSEL TRAFFIC CONTROL

INVESTIGATING THE TOTAL PROBLEM OF VESSEL TRAFFIC CONTROL  
AND THE PARTICULAR PROBLEMS ENCOUNTERED IN CERTAIN AREAS

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JUNE 26, 1975—WASHINGTON, D.C.  
JUNE 27, 1975—NEW YORK, N.Y.  
JULY 7, 1975—PHILADELPHIA, PA.  
OCTOBER 3, 1975—NEW ORLEANS, LA.  
SEPTEMBER 21 AND 22, 1976—WASHINGTON, D.C.

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## COAST GUARD ACTIVITIES IN THE UPPER GREAT LAKES

OVERSIGHT OF THE ACTIVITIES OF THE COAST GUARD PERTAINING  
TO THE FACILITIES AND OPERATIONS IN THE UPPER GREAT LAKES

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JULY 16, 1976—SAULT SAINTE MARIE, MICH.

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# VESSEL TRAFFIC CONTROL

THURSDAY, JUNE 26, 1975

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

The subcommittee met, pursuant to call, at 11 a.m., in room 1334, Longworth Office Building, the Honorable Mario Biaggi (chairman of the subcommittee) presiding.

Mr. BIAGGI. The meeting will please come to order.

This is a briefing on port safety and port safety navigational systems.

Captain Heyward?

Mr. HEYWARD. Mr. Chairman, before initiating the hearings that the subcommittee is going to be holding in various port areas, and the overall hearings later in the fall on the total problem of vessel traffic control, minority counsel and I this morning were prepared to give a short briefing on the background for the information of the subcommittee, and also for the purpose of including in the record various documents and material which are applicable to this problem.

I would like to ask unanimous consent from the chairman to present for the record a copy of a United States Coast Guard study report on vessel traffic systems analysis of port needs for August 1973, together with a study report for vessel traffic safety issues study, volume 1, executive summary, dated March 1973.

Mr. Chairman, in addition, and for the record, I would like to have unanimous consent to include a report to the Congress by the Comptroller General on vessel traffic systems, what is needed to prevent and reduce vessel accidents; the Coast Guard comments which were subsequently made on that report dated February 25, 1975, and some additional comments which were received by the staff from the Coast Guard yesterday.

Mr. Chairman, the purpose of these documents is to set the stage for what the subcommittee will be looking at in the various visits to the port areas.

Mr. BIAGGI. Without objection, the material referred to will be placed in the record.

[The material was placed in the hearing record files of the committee.

[The Coast Guard comments on the GAO report follows:]

## DEPARTMENT OF TRANSPORTATION STATEMENT ON GAO REPORT

## I. TITLE: REPORT TO THE CONGRESS OF THE UNITED STATES

## VESSEL TRAFFIC SYSTEMS—WHAT IS NEEDED TO PREVENT AND REDUCE VESSEL ACCIDENTS?

## II. GAO FINDINGS AND RECOMMENDATIONS

It is the conclusion of the GAO Report that the vessel traffic system (VTS) program should be redirected in order to produce maximum benefit in reducing loss of life, injuries, and damage to property and the environment caused by vessel collisions, ramblings, and groundings. On the basis of system acquisition and construction costs, GAO has classified the various levels of VTS into two categories: "basic" and "sophisticated." "Basic" systems include regulations, traffic separation and routing schemes, and vessel movement reporting communications systems (VMRS). Systems which utilize electronic surveillance or automated equipment have been termed "sophisticated."

GAO considers that greater incremental benefits can be gained from the development of "basic" systems in many ports and waterways than from the addition of "sophisticated" system elements in the major port areas presently under development. The GAO Report contends that the Coast Guard should follow a strict phased approach in all ports and waterways by first operating and evaluating the effectiveness of basic systems before adding increased system capabilities, such as surveillance or automation.

The Report recommends that plans to add surveillance capabilities in Houston/Galveston, New Orleans, and sections of New York be deferred until "basic" systems have been developed in several other U.S. ports and waterways. Additionally, GAO has concluded that expanded efforts in establishing regulations under the Ports and Waterways Safety Act of 1972 are required. It is recommended that national emphasis and direction be given to establishing regulations including vessel speed limits, limiting the size of tows, and regulating the movement of vessels carrying dangerous, combustible and polluting cargoes.

## III. DOT COMMENTS ON FINDINGS AND RECOMMENDATIONS

In order to assess accurately the direction of the vessel traffic system program, clarification of two points which form the basis of the GAO Report is essential.

A misconception of the trend of costs for VTS levels appears in the GAO Report, inasmuch as only acquisition and construction costs are quoted. For a more complete analysis of system costs, annual operating expenses, such as personnel salaries, which comprise a substantial component of total costs, must also be taken into account. All Coast Guard decisions concerning the selection of VTS levels for the areas under development have been based upon an analysis of total system costs and benefits. Appendix A provides detailed cost information for both initial construction and annual operating costs by system and level. Analysis of total costs rather than just initial costs provides more comprehensive information for decision making purposes.

The second point which deserves expansion and explanation is the GAO Report classification of VTS levels as "basic" and "sophisticated." While there is merit in the basic concern for cost effectiveness voiced in the GAO Report, this classification fails to address the relevant system cost and complexity considerations of the specific ports and waterways. For example, the GAO Report categorizes a VMRS communications system as "basic" and those systems incorporating surveillance capabilities as "sophisticated." In many cases these labels are not accurate either from an engineering or cost standpoint.

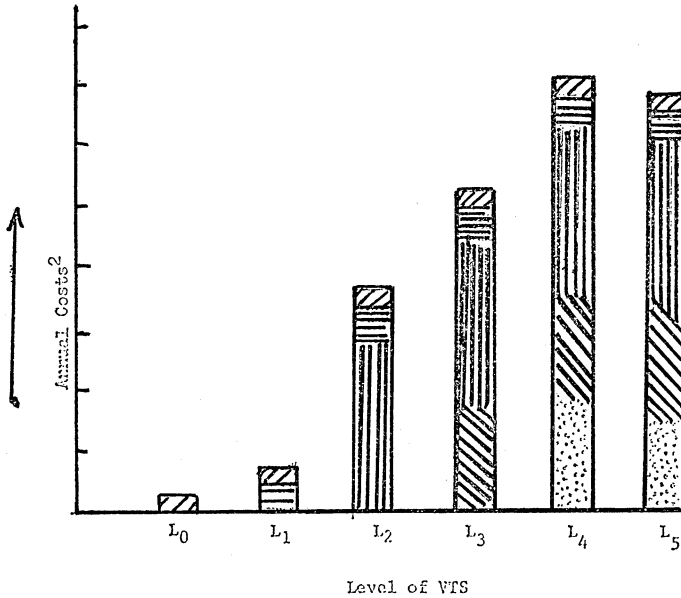
In areas where traffic density and volume are high and traffic patterns complicated, a VMRS may require automated (i.e., "sophisticated") equipment to provide fast, effective data retrieval for traffic management. Where this need exists, the only alternative to automated system components is greatly increased manning level (and cost), accompanied by an increase in the probability of human error. On the other hand, some surveillance systems may be very "basic" consisting of only a radar and scope presentation or low light level television (LLLTV) to monitor vessel movements and to validate the accuracy of VMRS reports.

The GAO Report's classification of VTS levels is also inappropriate on the basis of total system costs. The following bar graph, from an earlier Coast Guard Study Report, depicts the general trend of annual costs by VTS level for the "typical" VTS. The cost figures in the bar graph are based on a hypothetical VTS in which all levels are employed, with three to four remote communications sites









General Trend of Annual Costs  
Versus  
VTS Level<sup>1</sup>

Graph assumes hypothetical VTS in which all VTS levels can be used.



<sup>1</sup>Definition of Levels and Legend of costs

|   |   |
|---|---|
| L <sub>0</sub> - Vessel Bridge to Bridge Radiotelephone . . . . . |    |
| L <sub>1</sub> - Traffic Separation Scheme . . . . .              |   |
| L <sub>2</sub> - Vessel Movement Reporting System . . . . .       |  |
| L <sub>3</sub> - Basic Surveillance . . . . .                     |  |
| L <sub>4</sub> - Advanced Surveillance . . . . .                  |  |
| L <sub>5</sub> - Automated Advanced Surveillance . . . . .        |  |

<sup>2</sup>Annual cost is defined as the construction cost divided by fifteen years plus the annual operating costs. Costs are based on actual costs for Puget Sound (Phase I) and San Francisco, and on estimated costs for Houston, Galveston and New Orleans (Phase I).

and two to three remote radar sites. Annual costs were computed by adding annual operating expenses to the initial implementation costs divided by 15 years. The figure of 15 years, estimated to be the expected life of each system, may be subject to argument, but this figure is considered valid since the costs of equipment replacement are included in annual costs.

As portrayed by the bar graph, the most dramatic increase in annual costs occurs in moving from a traffic separation scheme to a vessel movement reporting system (VMRS). The establishment of a VMRS involves the construction and outfitting of a vessel traffic center, remote communications sites in most cases and extensive personnel costs for continuous watchstanding and operation. Comparatively, the cost increase in adding surveillance capabilities is smaller. The initial capital outlay for surveillance, relay, and display equipment may seem substantial, but little or no annual operating personnel costs are incurred.

After close examination of costs by VTS levels, it is considered that the classification of VTS levels as "basic" and "sophisticated" is inappropriate. Possibly, a more meaningful classification, on the basis of system complexity and costs, would be "manned" and "unmanned" systems.

With these clarifications of the general trend of VTS costs and of the classification of VTS levels, attention is directed to the GAO Report's "Recommendations to the Secretary of Transportation." Each of the four recommendations is discussed in detail below.

Recommendation 1: "—redirect its traffic program to emphasize the development of basic vessel traffic systems in U.S. ports and waterways;"

In the implementation of vessel traffic systems, it has been the policy of the Coast Guard to proceed on the basis of cost/benefit considerations and national needs. Those ports and waterways with the most pressing marine safety needs and the most promising returns on investment receive first attention. In every area where VTS is instituted, the minimum level of VTS required is selected, and the decision is based on an assessment of total costs and benefits.

The 1973 Coast Guard Study Report, "Vessel Traffic Systems—Analysis of Port Needs" provided a firm foundation for initial VTS planning decisions. Included in the outputs of this study was a ranking of major ports and waterways based on their need for VTS, initial recommendations of the VTS levels justified in each area, and estimates of the expected number of accident preventions. In certain instances, the GAO Report has relied exclusively upon the numbers of accident preventions in evaluating Coast Guard VTS implementation decisions, while excluding from their analysis other pertinent factors relating to VTS needs and benefits. These factors are addressed in detail in the discussion in response to the second recommendation.

In the discussion of the Coast Guard's implementation of VTS the GAO Report states that systems "are becoming increasingly sophisticated and costly," and that, "in some cases, local maritime interests had expressed a preference for sophisticated systems." Notwithstanding, present funding levels and plans for system implementation and sophistication are more conservative than early plans when VTS was first introduced. The studies completed in 1973 were undertaken to structure VTS plans, and recommendations for system complexity are very conservative. While the Coast Guard does provide for adequate consultation, comment, and coordination with local marine interests, as specified by the Ports and Waterways Safety Act of 1972, system implementation is being conducted in accordance with the plan based on national needs, implementation criteria and cost/benefit considerations. Local marine interests do express their preference for sophisticated systems and exert pressure on the Coast Guard, but the final configuration of each system is based on the Coast Guard's judgement of what level is required.

While the Coast Guard does consider the addition of surveillance capabilities as planned for certain selected areas more beneficial than communications systems in lesser ports and waterways, GAO's assessment of the benefits to be derived from such lower level systems is fully concurred in. The Intracoastal Waterway (ICW) west of New Orleans has one of the highest probabilities of accident in the nation. The GAO Report is accurate in identifying the large scale of vessel casualty prevention possible with a communications based VTS, and in selecting the optimal implementation approach in this area.

The waters of the ICW are very similar and lend themselves to simultaneous treatment through a systems approach. It would be inefficient to address each specific 10 or 20 mile section on a piecemeal basis. At the present time, detailed data collection efforts are underway on the ICW. It is planned that as soon as an effective approach is identified the ICW will be the next area addressed in VTS developments. It is anticipated that a communications system alone will provide adequate safety; however, surveillance may be incorporated in selected areas if the need is clearly demonstrated.

The Coast Guard recognizes the benefits to be derived from establishing relatively simple systems in lesser U.S. ports and waterways. In 1973, a communications system in the vicinity of McAlpine Dam on the Ohio River near Louisville, Kentucky was instituted. This system is placed in operation at those times when the flood stage at the McAlpine Dam exceeds 15 feet, a condition which causes strong outfall currents at the upstream approach to the canal entrance to the locks. During such times, it is hazardous for more than one tow to be in the vicinity of the lock approach at the same time. The VTS coordinates the arrival of the tows at this approach. At the present time, it is a voluntary system based on a VHF-FM communications network. Personnel who man the system

intermittently are made available from their regular tasks by the call up of ready-reservists. Other similar systems may be initiated in response to hazardous situations in the future.

The Coast Guard agrees that in many areas relatively low level systems will provide an adequate level of safety at a favorable cost/benefit ratio. However, a distinct need is recognized to address the major port areas now in planning with systems which will provide the reliability and effectiveness demanded by local conditions. In order to provide maximum national benefit for marine safety, it is essential that those areas with the greatest needs and highest returns on investment be addressed first. In making its implementation decisions, the Coast Guard has been considering all relevant variables and examining the incremental costs and benefits involved with each system component implementation. As systems which achieve acceptable levels of safety are completed in the major ports and waterways now under development, those lesser areas identified by GAO will be addressed. It is strongly maintained that within the limited funding constraints, low level systems in lesser areas should not be undertaken at the expense of providing surveillance capabilities in the major port areas as presently planned.

Recommendation 2: "—defer its present plans for further electronic surveillance in Houston-Galveston, New Orleans, and the East River and Newark Bay in New York until basic systems have been developed and placed in operation in these ports and several other major U.S. ports;"

This recommendation applies the concerns voiced in Recommendation 1 to the specific areas in which Coast Guard VTS planning and implementation are presently underway. The justification for present Coast Guard plans in each of these areas is discussed separately below.

It is true, as the GAO Report points out, that in some cases more numbers of vessel casualties could be prevented with communication systems in lesser areas than with surveillance additions in major areas. However, a simple tabulation of the number of vessel casualties may be misleading since there may be a large variance in the damage caused by an accident. The amount of physical damage and environmental harm resulting from a vessel casualty is dependent upon several factors including the vessel's overall size and cargo capacity, the capacity of the individual cargo tanks, the ability of the hull to withstand shock without rupturing, and the nature of the cargo.

Typically, the major U.S. ports in which VTS developments are planned or underway are frequented by vessels whose average damage in accident exceeds that of vessels engaged in operations on the inland waterways. This is due in part to the factors enumerated above. Vessels engaged in international commerce calling at major ports are generally larger in overall size and in cargo capacity. Furthermore, the size of the individual cargo tanks is an important variable in determining the threat to public and environment. Although the quantity of cargo carried by a number of barges making up a tow may be the same as that of medium sized ocean going tank vessel, the number of individual chambers in the tow greatly exceeds the number of tanks of the tanker. The risk is quite different for the same cargo. The quantity of cargo released from a simple hull penetration of a barge tank would be less than that of a tanker sustaining the same damage. In fact the quantity of cargo permitted to be contained in a single tank for oil carrying vessels under IMCO standards is of the order of 30,000 cubic meters, a quantity that few tank barges are capable of handling.

Another major consideration is the construction and maintenance of hull and system. Although foreign flag vessels calling in major U.S. ports are built in accordance with internationally recognized classification society standards (the U.S. Coast Guard plays a supervisory role in development of those of the American Bureau of Shipping) ocean going tankers vary considerably in reliability depending on their registry as a result of differences in national marine safety programs. On the other hand, buyers carrying combustible or hazardous cargo in U.S. inland waterways must conform to Coast Guard regulations for construction and maintenance stipulated in Subchapter D and Subchapter O of Title 46 CFR, directed specifically at reducing the potential for damage resulting from casualty. These are the most extensive regulations dealing with tank vessels of any nation. The regulations in Subchapter D deal with vessels which carry flammable or combustible liquids in bulk. The regulations of Subchapter O deal with vessels which carry certain dangerous bulk cargoes—those which have potential hazard beyond and including that of flammability, such as explosives, poisons, corrosive liquids, etc. (See 46 CFR 151.01)

In addition to the factors which govern the amount of physical damage to the vessel resulting from casualty, other variables must be taken into account for a complete evaluation of marine safety. Without a doubt, the cargo moving in the Houston Ship Channel is among the most hazardous in the nation. Likewise, the waters are very restricted, and have an extremely high probability of accident, based on past casualty data. Although a valid methodology has not yet been developed to quantify the potential for disaster, it is evident that vessel casualties in the Houston Ship Channel have a very high potential for catastrophe due to the nature of cargo moved and the proximity of industry handling this cargo and of the civilian population. In that area all the ingredients are present for a vessel casualty to lead to a major disaster.

Surveillance coverage of selected areas in the Houston/Galveston area will add important capabilities to Coast Guard supervision. The principal purpose of the surveillance system is to confirm vessel movement radio reports. Based on experience gained in operation of the St. Marys River system over a period of many years, it has been concluded that masters tend to hedge their movement reports to give them advantage and priority passage at critical points. This is particularly true when strict speed limits are posted. Furthermore, surveillance will detect the presence of any vessels which fail to report by radio, a condition which cannot be tolerated in an area such as the Houston Ship Channel. In the Houston/Galveston VTS the Coast Guard is also installing automated equipment to process the vessel traffic movement information. Such equipment will provide for fast, reliable information retrieval and will reduce overall manning requirements.

In New York Harbor, the GAO Report concurs in the need for surveillance of two areas, but questions the justification for surveillance in the adjacent East River and Newark Bay sectors, as planned by the Coast Guard. The same considerations present in the Houston/Galveston area also apply to New York VTS development. Furthermore, a consideration of broader scope must be taken into account in addition to the incremental benefits to be derived from surveillance in each particular section. In developing VTS for the various areas of a complex port, such as New York Harbor, the areas cannot be treated independently of each other. A total systems approach is necessary to achieve an effective system. The fact that the return on investment in surveillance is higher in one area has led GAO to the conclusion that surveillance is not justified in other parts of New York Harbor. The large number of intersections and "mixing bowls" with opposing streams of traffic demand a high degree of reliability and coordination. Therefore, the plan developed for VTS applications in a complex port must provide suitable capabilities to support both a feasible and functional system concept for the port. In addition to defining the concept of operation for the system the plan must also consider the overall operational and regulatory aspects applicable to the port.

For instance, the elimination of surveillance capabilities in the Upper and Lower Bay area would have a far-reaching and detrimental effect on the entire system, especially on the New York and New Jersey Channels. The Constable Hook area, where Kill van Kull intersects Upper Bay, is probably the most hazardous area in New York Harbor and is a prime example of this situation. Without totally accurate and complete information concerning vessel movements in Upper Bay, available only through surveillance due to the occasional unreliability of VMRS reports, the effectiveness of surveillance in Kill van Kull would be significantly eroded. Surprise meeting situations would continue to occur in that area due to vessels entering from Upper Bay which had not, or had incorrectly, reported to the VTS, and the potential for serious casualty would remain.

This consideration applies to each of the areas where selected surveillance coverage is planned. It should be noted that the surveillance planned for Newark Bay and the East River will not initially be designed to provide complete coverage. At the outset, surveillance coverage of both of these areas will be provided relatively inexpensively with a total of only three or four remote LLLTV sites.

In New Orleans, as in New York, the potential for catastrophe cannot be discounted, as vessel density is high and millions of people are within close range of the affected waters. Considering all factors, the surveillance planned for selected areas of the Mississippi River in the vicinity of New Orleans is entirely justified. It will replace the personnel required to man the traffic lights operated by the Corps of Engineers and will provide significant benefits in vessel casualty, deaths/injuries, and pollution incident reductions as well as in vessel, cargo, and property savings.

In summary, the GAO Report is accurate in pointing out that in some cases more numbers of vessel casualties could be prevented with communications systems in lesser areas than with surveillance additions in the major areas. How-

ever, when all the factors are taken into account, including differences in vessel construction, cargo, traffic density, and the potential for catastrophic environmental and personnel casualty, it is concluded that the surveillance capabilities planned will be the most cost beneficial.

Recommendation 3: "—adhere to a strict phased approach by first operating and evaluating the effectiveness of basic systems before adding more sophisticated elements;"

The GAO Report correctly states the Coast Guard's policy as set forth in a 1973 Study Report, as follows:

A phased approach will be stressed in the implementation of VTS (vessel traffic systems) in each port or waterway. This procedure will permit experience gained while operating the existing system to be used in planning for a more sophisticated system. It will also provide means to accumulate a better data base.

The GAO Report justifiably calls attention to the apparent inconsistency between that statement and the Coast Guard's plans to establish initially major systems incorporating surveillance and limited automated capabilities. The cause of this discrepancy is the Coast Guard's failure to update that policy statement to reflect the planning advances which have been made in the interim. Through the development and employment of several analytical tools and techniques, VTS planning has been substantially improved and formalized. In the Coast Guard's Analysis of Port Needs Study completed in late 1973, vessel casualty, transit and damage data were examined in detail for many major U.S. ports and waterways. Estimates of the effectiveness of each VTS level in each of these areas were developed in order to augment the knowledge of VTS requirements and the level of VTS necessary and justified in each area. More refined data collection and analysis techniques are now being employed at particular ports and waterways planned for VTS. Through the use of both side looking airborne radar (SLAR) and a mobile radar and communications van, detailed information is being collected concerning traffic patterns, communications loading, and vessel congestion. Likewise, simulation models have produced good projections of communications frequency and transceiver siting requirements. In addition to these analytical tools, the Coast Guard's knowledge of VTS has been expanded by the experience gained in the operation of two major systems for more than two years, and from planning the major systems in New York, Houston/Galveston, New Orleans and Valdez.

From the detailed analyses conducted in the major ports and waterways under development, the Coast Guard has determined that a higher level of VTS (than the minimum first step) is both required and justified. In such areas, that level of VTS which is considered necessary with a high degree of certainty is being established initially. It should be recognized that even in those areas, the initial implementation may be accomplished in a multi-year approach, but this "phasing" is due to budgetary constraints rather than uncertainty over system needs. The operation of all systems will undergo continuing scrutiny and evaluation. Any modifications or additions which are judged necessary will be undertaken in a subsequent phase(s).

The Coast Guard recognizes the importance of continuing to add to the knowledge base concerning VTS Systems and Operations. Statutory responsibility to provide vessel traffic systems and services has existed for a very short time—just over two years, although the legislation was preceded by the establishment of an Advisory Radar System at San Francisco. San Francisco thus became the Field Testing Site for VTS research and development projects. At that location the operational system uses the High Resolution Radars that were developed on an R&D basis. Automated features representative of the more sophisticated VTS levels are maintained there on an experimental basis. Achievement of major hardware advancements, however, does not mean completion of research and development efforts, for much remains to be acquired in the way of operational knowledge before United States Vessel Traffic Systems reach maturity. This is especially evident in the fact that VTS operations have not yet entered into the more complex modes under which vessels are provided movement control by the Coast Guard. Accordingly, developmental emphasis is expected to shift from hardware to operations. Important areas of investigation and definition include the formulation of operational control concepts and the generation of port by port VTS System Functional Requirements based upon traffic analyses, hydrographic data and the (separately derived) operational control concepts. The Department of Transportation recognizes existence of certain parallels along with major differences between Air Traffic Control and Vessel Traffic Control. Without attempting to detail these, it is clear from the aviation experience that there are

continuing lessons to be learned in arriving at a national set of Vessel Traffic Systems which operate effectively at lowest system cost. The VTS Research and Development Program in the Coast Guard builds on existing knowledge to help achieve this goal.

Recommendation 4: "—give national emphasis and direction to establishing regulations as authorized by the 1972 Act to control vessel traffic, including more extensive use of speed limits; greater regulation over the movement of vessels carrying dangerous, combustible and polluting cargoes; and limiting the size of tows."

The GAO Report stated that the Coast Guard had made limited use of its authority under the Ports and Waterways Safety Act to issue regulations for the control of vessel movements, and identified control of vessel speed, control of the movement of vessels carrying hazardous or polluting cargoes, and control of tow size as regulatory measures expected to be effective for prevention of accidents. The GAO Report further detailed inconsistencies between headquarters, district and field units in the approach to development of regulations under the Act. The promulgation of regulations was stated to be the measure least costly to the Government for reducing accidents through control of vessel movement.

The Coast Guard recognizes the essentiality of these constraints and they are being developed at Headquarters. However, the task of developing meaningful regulatory guidance at the national level is a good deal more profound than may be realized. The Ports and Waterways Safety Act empowers the Coast Guard to regulate the vessel with regard to its route. Such regulations must be merged in a harmonious way with other regulations by which maritime safety in the United States has for years been governed by the Coast Guard. Along with the operational constraints under the Ports and Waterways Safety Act, the preexisting regulation of safety and construction of the vessel, qualification of crew, safe handling and carriage of cargoes, anchorages, and Rules of the Road form a matrix addressing all elements of the system.

The development of a regulation is an exacting process which requires care in the identification of the problem to be corrected by means of the regulation, recognition of varied geographic and operating conditions, and appreciation of the impact of the regulation on the public affected, including the broad economic effect of the measure, and finally, definition of the corrective regulation. Presumably in recognition of these factors, the Ports and Waterways Safety Act contains a provision for consultation and comment by interested parties in preparation of proposed regulations; this is in addition to the requirements of the Administrative Procedures Act.

Inconsistencies which may appear to exist at the field level could well be due to local efforts to cater for variations in type of vessel, climatic conditions, and waterway configuration. Such local solutions with their differences will, as feedback, prove beneficial in the preparation of a comprehensive statement from the headquarters level.

The first significant rulemaking under the Act was accomplished in the Puget Sound VTS regulations which became effective on 30 September 1974. These regulations addressed a local problem, identification and solution of which were more rapidly handled than broad nationwide regulations. Once developed, however, these regulations contained most of the elements which will be employed in other systems, and as such will serve as a model for VTS rulemaking in other areas. Draft regulations now in preparation for San Francisco and Houston VTS draw extensively on the principles worked out for Puget Sound.

Regulations which address navigation and certain vessel operations have been promulgated for Chesapeake Bay, Delaware Bay and Apra Harbor, Guam. Principles employed in these regulations will be applicable to other areas.

Rulemaking actions appeared in the Federal Register on 1 March 1974 and 28 June 1974. Final rulemaking under the first of these actions is now in draft and will be published in the near future. This regulation will enable the District Commander, Captain of the Port, or their authorized representative to direct or control the movements of vessels under emergency or temporarily hazardous conditions when necessary for safety. This is the first regulation of nationwide application under the Ports and Waterways Safety Act. The second action is an advance notification of a broad philosophical approach the Coast Guard intends to follow in regulating the safe movement of vessels by means of operating controls. The work of drafting principles for proposed rulemaking is in progress and addresses equipment required to be on board vessels, tests of machinery and equipment, movement of hazardous and polluting cargoes, and safe operating procedures. The specific principles will be referred to interested parties for consultation in preparing the proposed rules.

The GAO Report places emphasis on control of vessel speed as an effective measure for prevention of accidents. The Ports and Waterways Safety Act gives the Coast Guard authority to control vessel traffic by means of speed limitations in areas determined to be especially hazardous. The U. S. Army, Corps of Engineers presently regulates vessel speed under authority of 33 USC 1. Preliminary arrangements have been made to relieve the Corps of Engineers of this function in all but certain waters of particular interest to the Army. The GAO Report indicated a greater incidence of accidents attributed to excessive vessel speed than Coast Guard analysis of the raw data can support. The Coast Guard is mindful that speed is often listed as a contributing cause to accidents. However, vessel speed alone is rarely the sole cause. The effective regulation of vessel speed is a complex matter related to vessel size and maneuvering characteristics, channel configuration, harbor congestion, weather and visibility, and involves far-reaching economic considerations. The Coast Guard will move forward with re promulgation of the Army Corps of Engineers' regulations where appropriate under authority of the Act, and the development on a case by case basis of regulations to limit vessel speed where necessary in especially hazardous areas.

The GAO Report advised of inconsistency on the part of the Coast Guard in different ports in applying suitable controls to the movement of vessels carrying hazardous or polluting cargoes. Current regulations require advance notification of arrival of any vessel loaded with cargoes of particular hazard. Action taken by the Coast Guard locally upon receipt of that notification will vary according to the particular requirements of different ports, so that some inconsistency is inescapable. The rulemaking, previously discussed for the operational control of vessel movements, will provide the regulatory tools necessary for effective action commensurate to the hazard and the particular area. As an adjunct the Coast Guard is considering an industry proposal to require visual, aerial identification of certain inland barges which carry hazardous or polluting cargoes.

Limitation of tow size and the powering of towing vessels were discussed in the GAO report, in part related to repeated casualties at two bridges. The Coast Guard has eliminated this problem at the West Port Arthur Bridge in Texas by widening the draw under the authority of the Truman Hobbs Act. Since that action, there has been no casualty attributable to the obstructive nature of the bridge, (or conversely those factors of tow size related to towboat power which could be addressed in regulations). In 1973 and again in 1974 the Coast Guard issued Special Navigation Orders for the protection of the Southern Pacific Railway Bridge at Berwick Bay, Louisiana. These orders, among other things, limited the size of tows permitted to pass through this bridge and established arbitrary horsepower requirements. Work is now in progress to establish a VTS at Berwick Bay for the protection of this bridge. Regulations will be developed for this VTS which will draw on the experience gained with the Special Navigation Orders. Efforts to establish criteria for tow boat power related to the ability to control barges, as called out by the N.T.S.B. report in 1972, have not thus far met with success. The Coast Guard is pursuing solution in two ways: research and development efforts in progress are addressing vessel maneuverability, of which power related to tonnage is a significant consideration; and, the problem has been referred to the Towing Industry Advisory Committee to the Marine Safety Council for an empirical solution based on industry practice.

Other measures the GAO discussed which may improve vessel safety are the requirement for drawbridges to be equipped with bridge-to-bridge radio telephone (VHF-FM Channel 13, 156.65 MHz), and the requirement for vessels to have on board some form of precision navigation equipment. The Coast Guard has been generally successful in its efforts to have bridge owners voluntarily equip draw bridges with bridge-to-bridge radiotelephone. Furthermore, in order to address those bridges which have not been so voluntarily equipped, the Coast Guard has sought legislation which would require the bridge owner to install this equipment at the same time bridge protective systems (fendering) are constructed or altered. Loran "C" may prove to be the suitable form of navigation equipment suggested in the report. The Coast Guard has no plans at this time to require Loran "C" to be carried on certain classes of vessels. If the necessary study of this matter should indicate the installation of Loran "C" equipment should be required, regulations towards this end may be developed under the Act.

Recognizing the overall scope of the work of drafting regulations which lies ahead, the Coast Guard is undertaking the development of a comprehensive Ports and Waterways Safety Act regulation plan towards this end. In order to assure a uniform understanding of the basis for the development of these regulations and their equitable enforcement, timely guidance will be circulated to the field.

Several errors and inaccuracies have been found in both the GAO Draft Report and final Report. The Comptroller General was alerted to these discrepancies in Appendix C of the DOT Statement on the GAO Draft Report, which was transmitted on January 21, 1975.

#### IV. STATUS OF CORRECTIVE ACTION

The Coast Guard intends to implement the vessel traffic system program on the basis of cost/benefit considerations and national needs. In keeping with these considerations, and the recommendations of the GAO Report, the next major VTS start is planned for the ICW. Detailed data collection efforts are now underway to identify the marine traffic safety needs more clearly and to help structure a comprehensive approach which will address the entire area most cost effectively. The VTS needs of Chesapeake Bay, an area which the GAO Report recommended for VTS implementation, are presently under study at the local level. By July 1, 1975 the Commander, Fifth Coast Guard District expects this examination along with system recommendations to be complete.

While the Coast Guard's position concerning implementation through a strict phased approach has been previously clarified, analyses of operational effectiveness will be conducted annually for each of the systems. After the selected level(s) has been established and in operation, such analyses will be used to identify the need for possible system upgrading and modification.

For the most part, the GAO Report's Recommendation concerning the promulgation of regulations under the Ports and Waterways Safety Act of 1972 is concurred in. Efforts are underway to identify those aspects of marine safety which lend themselves to universal regulatory treatment. As such problem areas are identified, nationwide direction to field units will be provided by Coast Guard Headquarters. In other instances, the peculiarity of local conditions will require local regulatory remedies. In any case, greater emphasis is being given to marine safety regulations, and recent headquarters staff augmentation should expedite the entire process.

O. W. SILER,  
*Admiral, U.S. Coast Guard Commandant.*

#### APPENDIX A

##### SUMMARY OF VTS COSTS BY SYSTEM BY LEVEL (COSTS BY LEVELS ARE INCREMENTAL)

| Port of waterway  | System component  | A.C. & I. cost<br>(million) | Annual<br>operating<br>expense <sup>1</sup><br>(thousands) | Present value of<br>total 15-year<br>cost (discounted<br>at 10 percent)<br>(millions) |
|---|---|-----------------------------|--|---|
| San Francisco.....                                      | Present configuration: A.C. & I. cost<br>includes all VTS R. & D. | \$5.8                       | \$700  | \$11.1  |
| Puget Sound.....  | VMRS.....   | 1.0                         | 340  | 3.6   |
|   | Radar.....  | 1.0                         | 280  | 3.1   |
|   | Total.....  | 2.0                         | 620  | 6.7   |
| Houston/Galveston.....                                  | VMRS.....   | 1.2                         | 570  | 5.5   |
|   | LLTV.....   | .8                          | 120  | 1.7   |
|   | Radar.....  | .7                          | 100  | 1.5   |
|   | Total.....  | 2.7                         | 790  | 8.7   |
| New York.....   | VMRS.....   | 1.6                         | 800  | 7.7   |
|   | LLTV.....   | 1.7                         | 250  | 3.6   |
|   | Radar.....  | 1.2                         | 180  | 2.6   |
|   | Total.....  | 4.5                         | 1,230  | 13.9  |
| New Orleans and<br>Mississippi River to<br>Baton Rouge. | VMRS.....   | 1.7                         | 800  | 7.8   |
|   | LLTV.....   | .6                          | 100  | 1.4   |
|   | Total.....  | 2.3                         | 900  | 9.2   |
| Valdez.....   | VMRS.....   | 3.1                         | 700  | 8.4   |
|   | Radar.....  | 1.5                         | 225  | 3.2   |
|   | Total.....  | 4.6                         | 925  | 11.6  |

<sup>1</sup> Operating personnel costs are included.



In each of the areas, the VTS levels indicated and costed are those which are presently in operation or planned for implementation. Additions or improvements may be made subsequently after experience is gained from system operations.

The cost estimates provided in this appendix are based on August 1, 1974 engineering cost estimates, and do not in all cases coincide exactly with previous budgetary requests and documentation.

Mr. HEYWARD. In addition, Mr. Chairman, minority counsel, Pierre Olney, has prepared a brief memorandum which brings the issues into focus for the subcommittee, and I would like unanimous consent for him to present that, and to have that memorandum submitted for the record.

Mr. BIAGGI. Without objection, so ordered.  
[The document referred to follows:]

U.S. HOUSE OF REPRESENTATIVES,  
COMMITTEE ON MERCHANT MARINE AND FISHERIES,  
*Washington, D.C., June 25, 1975.*

MEMORANDUM

To: Chairman Biaggi, Congressman duPont, and members of the Coast Guard Subcommittee.

From: Pierre Olney, minority counsel.

Subject: Background information for vessel traffic safety oversight hearings.

(1) In response to increasing accidents in harbors and waterways, the Congress enacted the Ports and Waterways Safety Act of 1972. Among other things, the Act authorizes the Coast Guard to:

Establish, operate and maintain vessel traffic services and systems in congested waterways;

Require the installation of electronic or other devices necessary for the implementation of a traffic safety system; and

Control vessel traffic when conditions require it through traffic control routing schemes and speed limits.

(2) As part of its general review responsibilities, the General Accounting Office conducted an investigation of the Coast Guard's implementation of the Ports and Waterways Safety Act. The report of the Comptroller General was made available to the Congress on January 21, 1975. The GAO was critical of the Coast Guard's activities in two major areas:

(a) The GAO found that the Coast Guard had given too much emphasis to the development of "sophisticated" systems in the six ports of Houston-Galveston, New York, New Orleans, San Francisco, Puget Sound and Valdez. The GAO's conclusion was that before refining the VTS systems in these ports, some expenditures for basic systems should be made in other ports. For example, the cost of the basic systems for Houston-Galveston, New York and New Orleans is expected to cost about \$5 million and should result in preventing 72 casualties annually. The addition of sophisticated equipment could cost between \$9.5 million and \$11.5 million and may prevent about 30 vessel casualties annually. With a lesser investment of between \$3.5 million and \$7 million, the Coast Guard could develop basic systems which could prevent an estimated 52 vessel casualties annually. In short, the GAO believes that basic vessel traffic systems across the board would be more cost-effective than the present Coast Guard plans for completing basic and sophisticated systems in the six ports named above.

(b) The GAO criticizes the Coast Guard for its limited use of authority to regulate vessel traffic movements. According to Coast Guard estimates, about 15% of the accidents considered preventable by VTS can be prevented by regulations if properly implemented. Such regulatory actions could include vessel speed limits, more stringent control over movement of dangerous and polluted cargoes, restrictions on movement during poor visibility, and limitations on size of tows.

(3) This leaves the Coast Guard Subcommittee with four major issues:

Should the Coast Guard redirect its traffic program to emphasize broad development of basic vessel traffic systems?

Should the Coast Guard defer present plans for sophisticated electronic surveillance in Houston-Galveston, New Orleans and New York until basic systems have been developed in other major ports?

Should the Coast Guard adhere to a strict phased approach by first evaluating the effectiveness of basic systems before adding more sophisticated elements?

Should the Coast Guard give national emphasis to more extensive use of speed limits, more stringent regulation over movement of hazardous cargoes, and mandatory limits on the size of tows?

Mr. OLNEY. Mr. Chairman, as Mr. Heyward alluded, I have a memorandum that has been placed in the folders of the members, which briefly summarizes the issues that were identified by the General Accounting Office in their report that was submitted to the Congress in 1975.

I think for the purposes of starting the hearings it is important not to necessarily accept the conclusions of the General Accounting Office, but to use them as a means of framing the issues which will be considered as the Subcommittee begins visiting some of the ports throughout the country.

As you noticed in the memorandum, one of the first issues that was identified by the General Accounting Office was that the Coast Guard had, in effect, decided to go ahead and develop vessel traffic systems to an advanced, sophisticated stage in six major ports before developing what is termed basic systems across a broader spectrum of ports. I think that the committee, when they are looking at these ports, should keep in mind whether, in fact, these sophisticated systems must be added to these major ports first, and whether those sophisticated systems are essential to reduce accidents in those six before we consider the reduction of accidents in other ports that are not among the six major ports, through basic methods.

The GAO report concludes that basic systems are more cost-effective in that initially they can affect a greater reduction of accidents, and that the addition of sophisticated equipment may result in only incremental reduction in accidents, so this will be one of the areas the committee should be considering in visiting each port. Should there be broad based implementation of basic systems, before the sophisticated systems are implemented in those 6 harbors.

Another major issue which the committee will be discussing is that involved in the implementation of that section of the Port and Waterways Safety Act which calls upon the Coast Guard to establish regulations for control of traffic.

Mr. Chairman, this would include speed limits, traffic separation schemes, limits on tow size and the like. The General Accounting Office report is critical of the Coast Guard in that they cite many accidents are caused by excessive speed, instances where perhaps Coast Guard imposed speed limits could have made a difference.

When we get a chance to visit the different ports I know we will be hearing a lot of comments from the various operators, and probably from the captains of the ports, on how feasible it is to, in fact, impose speed limits on the traffic in the area.

Bearing in mind that if the Coast Guard is going to impose traffic regulations on ships, what does this mean in terms of traditional notions of liability? Could the Coast Guard perhaps become jointly liable in the event of accidents where the vessel was under Coast Guard regulation?

We also have to consider the responsibility that the masters and the pilots have under such regulations.

Mr. Chairman, I think all of these issues involve new areas of the law, and will merit serious consideration by this committee.

If the members of the subcommittee now have any further questions we have witnesses here available to answer those questions from both the General Accounting Office and from the Coast Guard.

Mr. BIAGGI. Thank you.

Mr. HEYWARD. Mr. Chairman, this morning, subject to whatever you wish, it had been my intention that we not go into detail in the GAO report, of the Coast Guard response to it, in view of the fact that we are going to be holding field hearings, and that report will be gone into, in depth, when we hold our hearings in the fall.

However, in case there are any questions that the members may have, I asked Captain Moser, who is at Coast Guard Headquarters, and Chief of Port Safety, and Mr. Oliver Kruger, from the General Accounting Office, who I understand was involved in the preparation of the report, to be ready to respond if you had any questions.

I think it would be better to defer a detailed presentation of the exact contents of both the report and the response to it until a later time when the members were more familiar with the exact problems of the various port area or the various port areas. Whatever you would like to do Mr. Chairman.

Mr. BIAGGI. That is fine, Captain Heyward.

I would certainly suggest that the points Mr. Olney brought up be responded to by the Coast Guard in detail, but for myself, I think it would serve the committee's interest best if we could have a review of the basic system as contrasted to the sophisticated system, and then talk about the conflict of opinion between the General Accounting Office and the Coast Guard.

In other words, how the whole navigational system should be treated in preparation for our planned meetings.

Mr. HEYWARD. Do you wish to have them come up now, so questions can be addressed to them?

Mr. BIAGGI. Before they start to testify, we shall have to take a short recess to answer the quorum call.

[Short recess.]

Mr. BIAGGI. The meeting is again called to order.

At this time we will recognize Captain Moser and Commander Hickey of the Coast Guard, and Mr. Kruger from the General Accounting Office.

Captain Moser, can you give us the GAO's point of view as contrasted to the Coast Guard?

**STATEMENT OF CAPT. KEVIN L. MOSER, PORT SAFETY DIVISION,  
U.S. COAST GUARD, ACCOMPANIED BY COMDR. EUGENE HICKEY,  
U.S. COAST GUARD, AND OLIVER KRUGER, GENERAL ACCOUNTING  
OFFICE**

Captain MOSER. Mr. Chairman, first, the terms "basic" and "sophisticated" were not terms devised by the Coast Guard.

This was developed by the General Accounting Office in the course of their review of our activity in vessel traffic systems.

As I understand it, the GAO definition, they would describe as basic any kind of a system which does not use a means of surveillance,

such as a TV or a radar, or involve the use of a computer for whatever purpose, be it merely managing data or solving problems.

Systems which have those features, ability to see the radar, or the TV, or the ability to process the computer would be described by the GAO as sophisticated, and all others would be basic.

I think that this is really not useful to the way the Coast Guard would manage the program.

For one thing, the computer, sir, is a laborsaving device in addition to some of the other things it might do.

Mr. Chairman, one might have what would be otherwise a basic system using radio reporting alone, or with some other supportive things, such as regulations and the bridge-to-bridge radio telephone.

At a certain point, the amount of work that a man must do in plotting and keeping track of this traffic overwhelms him. He is prone to error. He must bring in additional people at additional cost, and, quite frankly, it is more accurate and cheaper to buy a machine to do the work of the man.

Therefore, we contest the use of a computer for that purpose is really not sophisticated at all, merely a laborsaving device.

When one couples a computer to a radar, and has the radar problems solved by computer, again, this is using a machine to do what it would take many men to do, and doing it more accurately, and immensely faster.

Mr. Chairman, we could handle problems better, and leave the men to make the judgments about the information presented by the computer.

Mr. Chairman, I think that pretty well sums up our thoughts on the difference between basic and sophisticated.

Mr. BIAGGI. How do you justify the Coast Guard's position of dealing with six major ports with the installation of the sophisticated, if you will, system, rather than having a basic system in a large number of ports around the country first?

Captain MOSER. Well, I think we started down this road 'at vessel traffic systems, Mr. Chairman, in order to get the problem solved where it was worse, and frankly, it is worse in the big ports.

There are places, such as ports of the ICW, which have accidents by and large where the accidents are large in number because there are large numbers of small barges which may be involved in a single accident.

But where one has a large busy port, for instance, New York, which is the second largest port in the world, New Orleans and its complex and its associate Port of Baton Rouge, is the third largest port in the world, and the Coast Guard judgment is that a basic system is not going to do the job there.

We have to have it supplemented, and I use the word "basic" because I happen to be sitting here talking about basics, not because it is a Coast Guard term. The Coast Guard would use those tools necessary to do the things we would so wish to do in keeping track of traffic, and when we develop the regulations for these particular areas to operate the system in such a way that the vessels will not try to occupy the same place at the same time.

Mr. Chairman, that is really what we are trying to do, space control by a number of stratagems, either by advising the mariner of other

vessels, and concentrations of vessels, or by directing the mariner not to proceed in such a way which would cause a concentration of vessels.

Mr. BIAGGI. We understand your concerns, and the mutual concerns for the larger ports.

Just what is the picture in the smaller ports where we do not have such problems?

Captain MOSER. There are accidents there, but I believe our study, Mr. Chairman, which was introduced into the record, the analysis of port needs, would give you a pretty good picture of incidents of accidents, the frequency of them, and their seriousness, and what kind of a vessel traffic system could prevent the accidents which have really taken place in these ports over the previous 4-year period during this study.

What we did with this study, first, we charted out the ports by tonnage and transit, to see which were the really important ports in this country, organized them in descending order, and then investigated them by means of an algorithm, which studied different kinds of accidents, laid a value alongside of them, and then we examined each and every accident, almost 4,000 accident reports, perhaps 2,000 accidents, and asked the question, and the question was: "Would, let us say, bridge-to-bridge radio have prevented this accident if properly used?"

Would a traffic separation scheme have prevented this accident if properly used?

Would a VTS involving radar surveillance have prevented the accident?

The answers were clouded, and quite frankly, I was surprised to find there were a number of places where my inclination would tell me that we would need, let us say, a radar, or some surveillance devise which the answers proved to us were not warranted.

Mr. Chairman, I should go one bit further. We do look at this in a cost-benefit way. The cost of the installation should certainly prevent accidents of greater value than the cost, and if it cannot meet that test, we simply do not go that far.

Mr. BIAGGI. Just for my own information, I see New York has had in fiscal years 1969-72 320 accidents, and Boston has had 15.

I imagine there is substantially less traffic in Boston, but are there other factors?

Captain MOSER. Factors for the number of accidents?

Mr. BIAGGI. Yes.

Captain MOSER. I think we took the port and said look, you are having many accidents, and that is what we are trying to attempt.

We did in our early attempt try to get a handle on how difficult the port was, and what made one port more demanding in skills for the mariner than another port, but we quickly found we were not getting very far looking at that and decided that we would look at the accidents which are taking place, and try to prevent those things from happening, not the things that did not happen.

Mr. BIAGGI. Do you have any navigational systems in Boston Harbor?

Captain MOSER. Yes, sir, there are navigational systems in Boston Harbor, well-buoyed and well-marked, as are in New York, as in all of our ports.

Mr. BIAGGI. We had some testimony that Philadelphia left something to be desired, but we will look at that shortly.

Mr. HEYWARD. In connection with Boston, as contrasted with New York, other than the traffic volume, would you not say there are not as many complicating cross channels, and different directions that people move in Boston?

Captain MOSER. Oh, yes, I would agree with the counsel for pointing that out.

New York is a complicated harbor. Staten Island sits smack in the middle of it.

There are really four entrances into the harbor, streams of traffic that join and then split away, and go other places.

Yes, it is a very complicated case.

Mr. HEYWARD. I would suppose that perhaps Philadelphia and the Delaware River are somewhat comparable in connection with approaches, because there is mainly one channel there.

I am not saying it is the same, but what I am saying is the configurations of the harbor areas would probably influence the number of accidents if there is very little crossing of traffic, and fewer accidents should occur. Would you not agree?

Captain MOSER. I would tend to agree, but I think rather than just agree with you, we would have to go back and check the numbers out.

I really believe that you are on target though, at least the simple channel is much more receptive to, say, the movement of vessels than a complicated one.

Mr. HEYWARD. I notice from the casualty record, for instance, that the Delaware River and Bay had 107 accidents, as contrasted to 320 in New York during this period, even though the volume of traffic in Delaware Bay, at least in some commodities, is much greater than New York.

I am speaking of volume now, and not the number of transits.

Each harbor and port has its own problem area, and each configuration, each usage, each traffic pattern will dictate a different need and a different result.

Captain MOSER. Absolutely, sir. These ports are quite individualistic, and we try to look at them and treat their problems according to what is needed for that particular port.

Early on, Admiral Benkert set this up in our mind, that we were not going to take a paint brush and paint the traffic system the same in every place.

We have to meet the need that exists in a particular port.

Mr. HEYWARD. Thank you, Mr. Chairman.

Mr. BIAGGI. Mr. Olney?

Mr. OLNEY. Captain, you mention that you do not agree with, rather you do not use the term "basic and sophisticated" to describe what level of vessel traffic systems you have in a given port, is there a classification that you would prefer that you think is more consistent with the way the Coast Guard analyzes different levels of traffic control systems?

For example, in this letter dated February 25 to the chairman of the Government Operations Committee, on page 3 of the appendix you have levels of VTS systems where you define systems starting from bridge-to-bridge radio telephone through to advanced surveillance.

Do those five classifications represent separate components that can be added in a series, or do they have to be added into an integrated system?

Captain MOSER. No, they do not have to be added in a series. They are discreet things.

For instance, some ports simply could not use a traffic separation scheme.

I think the Delaware River in some places would not fit one in. It is not wide enough, so that would be one that could not possibly be used in that area.

We have no plan for such a thing in New Orleans.

However, in Puget Sound they have a separation scheme. These things are modular, if you wish to think of them in that way, and they can be placed in place, not necessarily depending on a previous placement of all the other ones.

Mr. OLNEY. So if we looked at the port and it had, let us say, bridge-to-bridge, traffic separation, and a basic surveillance, and we compared that with another port which had advanced surveillance, we could make some comparison about the sophistication and cost effectiveness about those particular packages.

Captain MOSER. Yes and no, sir. Because your surveillance is one device, or a series of devices that give you surveillance, and the price tag may differ depending on how many remotes you might have, but I think I could get right to the point here.

If we are talking about dollars and cents, the real split between costly systems and a less costly system are those which are manned and those that are unmanned. The things that cost less would be regulations without an expensive system to support them—traffic separation schemes, the bridge-to-bridge radio telephone system, and those things have practically no cost attached.

When one starts to put in things such as radios to make reports, all of a sudden you have to have a man on the other end of the radio, and that is where your money starts.

The capital costs are there, but the real continuing cost, the one that eats you up is the man.

Mr. BIAGGI. Thank you, Captain.

Now we will hear from Mr. Kruger from GAO.

Would you care to make some comment and respond to my questions, Mr. Kruger?

Mr. KRUGER. Perhaps, Mr. Chairman, I could give a fast rundown why we got into this job in the first place.

Mr. Chairman, we wanted to take a look at the whole Ports and Waterways Act of 1972, and what the Coast Guard was doing in that respect, and provide some sort of evaluation to the Congress as we were charged to do.

I think Mr. Olney accurately stated what our function in this matter is, and that is to bring forth some issues for consideration by committees like yours.

In this particular case, we have made some recommendations that we felt are necessary, based primarily on data we have obtained from the Coast Guard.

Mr. Chairman, none of the data in our report is generated by the General Accounting Office. It is an evaluation and analysis of the Coast Guard's existing data.

We try to use simple language in our reports. The terms "basic" and "sophisticated" to us were something that people on the street can understand.

The definitions that we use, or the criteria that we use, I think was accurately stated by the captain here.

Anything that has to do with electronics surveillance, be it radar or TV, we consider sophisticated systems.

The captain here just mentioned that the manned versus unmanned might be a better definition. Unmanned vessel traffic systems in my point of view, anyway, would consist primarily of just your regulations.

The system that is currently in existence at Puget Sound, for example, and I do not know whether you have installed the radar out there or not, but before the radar we would consider the system out there to be a basic system. That included the vessel captains reporting into the traffic control center on their positions, their speeds, the plot board where the Coast Guard would plot these various ships, show them in the traffic lanes where they were, who was going to meet at various turning basins, and so forth.

This, to us, was a basic system, Mr. Chairman.

Now, the plans were to add radar surveillance in various sections of the Puget Sound area. To us this was getting into the sophisticated aspects of the vessels system.

The Congress, as we interpreted the intent of the initial Port and Waterways Safety Act, was to get as much safety as we could for our dollars.

The Congress in this whole program has been rather stringent in providing money for this program.

Therefore, in the view of the General Accounting Office, in looking at this program with the limited resources we felt that we could get more safety for the same amount of dollars by spreading out the basic systems in more ports, and then as money becomes available, and as studies would show the necessity for adding on additional increments of a system, we can do this.

We have no objection to this, Mr. Chairman.

Mr. BIAGGI. Thank you very much, Mr. Kruger.

Captain MOSER. May I make this statement, Mr. Chairman, concerning in some places the use of electronics surveillance devices I would take the Port of New York as the most extreme case where the traffic is complicated, and if one is to use a vessel traffic system in New York, it is virtually impossible to put one in without a radar.

With a reporting system alone, it would fill the air up with reports, and challenge the people who are trying to keep track of what is going on.

There will be so many reports you simply must have some book-keeping device, such as a computer, or some way of using eyes where they cannot see otherwise, such as a TV, or a radar, in certain other areas in a heavily trafficked port.

Mr. Chairman, we do not believe it would be possible to put in successful VTS in many places without this "sophisticated" equipment, and I would include in that the Houston area, where we are limping along without a computer, but we will have to have one in order to keep track of the very heavy traffic in that area, and New Orleans for the same purpose.



Mr. BIAGGI. As far as the New York area, that is not talking in terms of the Hudson River, is it?

Captain MOSER. No, sir, unfortunately, just below the Battery things begin to happen.

Mr. BIAGGI. Thank you very much.

You have made it quite clear.

Mr. Olney?

Mr. OLNEY. Captain, I would like to follow up once more. I think I understand your last statement, and what you are saying is that it is not necessarily effective to, across the board, have levels 1, 2, and 3 of the basic system.

What you are saying is in an area like New York, you have to go one through five. You have to start with bridge-to-bridge, and go all the way through to levels of automated surveillance. So, in effect, when we are comparing ports, we should not necessarily look at the degree of sophistication in one port and compare it to another, but look at the port as a whole.

Captain MOSER. Yes. The one thing I am not certain of is whether there will be devised a way to have separation of traffic in New York, so it might be inappropriate to suggest that they will have a traffic separation scheme.

The other elements, though, would be appropriate, even including the possibility of a basic system if one were to put a TV to monitor certain restricted areas where the TV could work. That might be appropriate in addition to a radar.

I have with me Commander Hickey, who has just come off leave, to be present at this briefing, and he keeps nudging me, and wants me to say it is life cycle cost that we are speaking about when we buy a piece of capital equipment, a radar, a center, and that is the kind of cost that we have applied in our thinking of our system when we measure cost-benefit ratios.

Mr. OLNEY. Thank you.

Mr. BIAGGI. Thank you very much, Captain Moser, Commander Hickey, and Mr. Kruger.

At the outset, you will recall I asked the Coast Guard to prepare responses to the points that Mr. Olney raised in his statement, and we would appreciate it if you would do that as quickly as possible.

Captain MOSER. We will have that in your hands as soon as we can get it.

[The following was received:]

DEPARTMENT OF TRANSPORTATION,  
UNITED STATES COAST GUARD,  
July 8, 1975.

HON MARIO BIAGGI,

*Chairman, Subcommittee on Coast Guard and Navigation, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: On 25 June 1975, Mr. Pierre Olney, Minority Counsel to the Coast Guard and Navigation Subcommittee, submitted for the record a memorandum of background information for Vessel Traffic System oversight hearings. In this memorandum Mr. Olney summarized, in his own words, the two basic criticisms made by the GAO with respect to the Coast Guard's activities in the vessel traffic management area. These were contained, respectively, in paragraphs (2)(a) and (2)(b) of his memo. You asked that the Coast Guard provide you with its response to the issues raised in the memorandum.

The Coast Guard feels that Mr. Olney has accurately identified the major issues of concern to the GAO and to the subcommittee. Whereas Mr. Olney's memorandum has summarized the GAO's criticism of the Coast Guard, it would also be appropriate to summarize the Coast Guard's response to those criticisms.

For an accurate assessment of the Coast Guard's vessel traffic system program, two points which form the basis of the GAO Report must be clarified. First, GAO's analysis of system costs is distorted and misleading, inasmuch as only acquisition costs were quoted. A valid cost analysis for any such program requires that annual recurring costs such as operating expenses and personnel costs be included. It is the total life cycle costs, not the initial acquisition cost, which must be examined in making implementation decisions.

The second point which deserves explanation is the GAO Report's classification of VTS levels as "basic" and "sophisticated." While GAO's intent to arrive at terms easily understandable to the layman is appreciated, it is felt that these terms are oversimplified and tend to cloud rather than clarify the relevant system cost and complexity considerations. Those ports and waterways with the most pressing marine safety needs and the most promising returns on investment are receiving first attention. The decision to implement automated or surveillance system components in any area is made only after careful study of the total incremental costs and benefits. In assessing vessel traffic system benefits many factors in addition to the simple number of accident preventions must be weighed. These include differences in vessel construction, cargo, density, accident severity, and the potential for catastrophic environmental and personnel casualties.

The Coast Guard agrees that in many areas relatively low level systems will provide an adequate level of safety at a favorable cost/benefit ratio. However, a distinct need is recognized to address the major port areas now in planning with systems which will provide the reliability and effectiveness demanded by local conditions. In order to provide maximum national benefit for marine safety, it is essential that those areas with the greatest needs and highest returns on investment be addressed first.

For the most part, the GAO's Report recommendation concerning the promulgation of regulations under the Ports and Waterways Safety Act of 1972 is concurred in. Efforts are underway to identify those aspects of marine safety which lend themselves to universal regulatory treatment. As such problem areas are identified, nationwide direction to field units will be provided by Coast Guard Headquarters. In other instances, the peculiarity of local conditions will require local regulatory remedies. In any case, greater emphasis is being given to marine safety regulations, and recent Headquarters staff augmentation should expedite the entire process.

As a summary of the Coast Guard's position concerning the GAO Report on vessel traffic systems, this letter should not be considered definitive in that regard. However, it is hoped that it is responsive to your specific request. For a comprehensive review of the issues under consideration, it is suggested that the GAO Report and the lengthy response prepared by the Coast Guard be relied upon. For your convenience, a copy of each of these documents is enclosed.

Sincerely,

O. W. SILER,  
*Admiral, U.S. Coast Guard Commandant.*

Enclosures.

Mr. BIAGGI. The meeting stands adjourned.

[Whereupon, at 11:55 a.m., the subcommittee adjourned, subject to the call of the Chair.]

# VESSEL TRAFFIC CONTROL

FRIDAY, JUNE 27, 1975

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,  
COMMITTEE ON MERCHANT MARINE AND FISHERIES,  
*New York, N.Y.*

The subcommittee met, pursuant to notice, at 1:07 p.m., in room 2705, 26 Federal Plaza, New York, N.Y., the Honorable Mario Biaggi, subcommittee chairman, presiding.

Mr. BIAGGI. The meeting is called to order.

This is the first of a series of oversight hearings of the Coast Guard Subcommittee that we will be making throughout the country in order to deal with the vessel traffic systems and safety plans that are on the boards.

In order to evaluate them properly and to deal with the general comments made by GAO, the subcommittee has initiated the hearings by appearing in New York as its first site.

I have with me the ranking minority member of the subcommittee, the Congressman from the State of Delaware, my good friend, Mr. Pierre du Pont; also counsel, Mr. Pierre Olney, and counsel, Mr. Francis Heyward.

We spent most of the morning making an overflight of the New York waterways, something that I have never been privileged to do as a resident of this city and an owner of a boat for many years. I have been all around the island and most of the islands and waterways, but seeing it from the top is something else and quite an experience.

We are privileged to have this afternoon Capt. David Perkins, chief of staff of the Third Coast Guard District, who will testify.  
Captain?

**STATEMENT OF CAPT. DAVID E. PERKINS, CHIEF OF STAFF, THIRD COAST GUARD DISTRICT, ACCOMPANIED BY LT. COMDR. CARL T. JOHNSON AND LT. ARTHUR R. WHITTUM**

Captain PERKINS. Congressman Biaggi, Congressman du Pont, and gentlemen, first of all, Vice Admiral Rea, the District Commander extends his regrets that he could not be here today. I do think that, he is planning to make the hearings in Philadelphia on the 7th of July.

The VTS problem was first addressed by the Coast Guard approximately 3 years ago in the New York area. After we had worked on it a short time, we became aware of the fact that we had to have a significant input from people in industry who were a lot more familiar with the local situation than we were.

We, therefore, in April of 1973, formed an advisory committee.

I would like to go down the list and the current associations of the members of this advisory committee to simply give you an idea of the spectrum of expertise that we have in this group.

The following are members of our committee: Adm. John Will, U.S. Navy (retired), currently associated with Arthur Tickle Engineering Works; Capt. Harry C. Breitenfeld, New York Sandy Hook Pilots; Capt. William H. Burrill, New Jersey Board of Commissioner of Pilotage; Mr. Giallorenzi of the Exxon Co.; Col. Thomas C. Hunter, Jr., New York District U.S. Army Corps of Engineers; Mr. Alfred Hammon, the Port Authority of New York and New Jersey; Capt. James G. Stillwaggon, Interport Pilots Associates; Capt. Thomas A. King, Eastern Region Director, Maritime Administration; Mr. Henry H. Anderson, Jr., North American Yacht Racing Union; Mr. Robert W. Sanders, Red Star Marine Services, Inc.; Capt. Stephen M. Seledce, American Institute of Marine Underwriters; Capt. Robert Donald Sante, U.S. Navy, Chief of Staff of the Military Sealift Command, Atlantic; Mr. Vito J. Fossella, Commissioner of Marine and Aviation, city of New York; Capt. Kenneth C. Torrens, Farrell Lines—Captain Torrens is the chairman of the executive committee of our advisory board; Capt. Thomas J. McGovern, United New Jersey Sandy Hook Pilots; Mr. Paul Elliot, Environmental Protection Agency.

With this group we have been working for over 2 years to develop what we think is going to be a viable traffic system for the Port of New York.

I am going to ask Lieutenant Commander Johnson in a moment to go into some of the details of what we see as the problem in New York, how we developed or identified this problem, and basically what we propose to do about it.

Lieutenant Commander Johnson.

Lieutenant Commander JOHNSON. Representative Biaggi, Representative du Pont, Captain Perkins, ladies and gentlemen, my presentation this afternoon is intended to inform you of the purpose, background, and current status of the New York vessel traffic system.

To fully understand our present position, some brief background information is desirable.

The American public, through congressional action, has demanded that more action be taken to reduce the loss of lives, injuries to people, and damage to property and the environment that result from the steadily increasing number of serious vessel casualties that occur in U.S. waters.

The Ports and Waterways Safety Act of 1972 authorized the Secretary of the Department in which the Coast Guard operates to establish, operate, and maintain vessel traffic services and systems for ports, harbors, and other waters subject to congested vessel traffic. This act also authorizes the requiring of vessels to use or comply with the system, as well as the control of vessel traffic during conditions of hazardous circumstances.

I would like to digress for a moment and address the subject of control.

The word "control" has ominous overtones to the mariner. The association of the word "control" with the word "Government" often

suggests to the mariner the usurpation of responsibility and freedom to act independently to maneuver his vessel according to his own training and judgment. I am sure as long as the word "control" is held in that context by the mariner, it will continue to be an emotional and frustrating prospect.

The New York vessel traffic system does not expect to have the necessary information, the expertise, or even the desire to attempt maneuvering a vessel from a shore facility. You and I, as motor vehicle drivers, would tend to be emotional if the traffic patrolman at the intersection opened the car door and told us to move over so he could drive the vehicle through the intersection or, worse yet, he sat in the passenger seat, in heavy traffic, ordered us to disregard all outside activity and manipulate the steering wheel, brakes, and accelerator as he directed.

Thankfully, such is not the case. The patrolman stands at the intersection, holds up his hand for us to stop, because he knows that we can and directs traffic to cross safely in front of us. Such will be the role of the Controller in our Vessel Traffic Center.

#### DEFINITION OF VESSEL TRAFFIC SYSTEM

With the passage of the Bridge-to-Bridge Radio-Telephone Act of 1971, and the Ports and Waterways Safety Act of 1972, a vessel traffic system became defined as "an integrated system encompassing the variety of technologies, equipment and people employed to coordinate vessel movement in or approaching a port or waterway."

The purpose of the New York vessel traffic system is to reduce the incidence of marine casualties that result from collisions and groundings by identifying and eliminating their causes while facilitating the orderly movement of vessels within the port.

#### HEADQUARTERS PLANNING PRIOR TO IMPLEMENTATION

In March 1973, the Commandant, Office of Environment and Systems, published the Vessel Traffic System Issue Study. The objectives of this study were:

1. To identify specific vessel traffic system program goals, anticipated benefits and alternatives.
2. To analyze the potential vessel traffic system roles of Federal, State and local authorities, and private enterprise; and recommend the most beneficial role for the Coast Guard.
3. To analyze the quantitative and qualitative factors to be considered in the determination of the needs for various levels of VTS in U.S. ports.
4. To prepare short and long-range staffing and funding plans.
5. To prepare a management plan to use as a guide in planning, developing and implementing new systems.

In August of 1973, the Office of Environment and Systems published a report titled the "Analysis of Port Needs." This report was a follow-on to the VTS issue study.

The cost/benefit analysis developed in the issue study was applied to 22 major ports and waterways in order to establish a relative ranking of their need for VTS. The ports were selected for analysis on

the basis of tonnage of cargo handled, number of vessel transits, and number of vessels involved in marine casualties over a 4-year period, fiscal year 1969 through 1972. The output of this analysis was a listing of ports and waterways in the order their needs for a vessel traffic system should be addressed, and the initial recommendations concerning the level of need for each area.

The Port of New York ranked No. 1 in level of need in terms of dollars lost in damages to vessels and environmental pollution. It ranked second, behind New Orleans, in deaths and injuries. New York also ranked No. 1 in benefits from estimated annual reductions of damage, deaths and injuries by the implementation of a vessel traffic system.

The issue study estimates that 52 percent of the casualties in New York Harbor are preventable by a vessel traffic system.

I would like to add some perspective to this estimate.

New York Harbor has the largest amount of casualties because it is the largest and most complex harbor in the United States and has the most traffic. These casualties have resulted from over 2 million vessel movements in the 4-year time period.

The mariner in New York Harbor is an expert and can be proud of the overwhelming number of successful harbor transits as opposed to those involving casualties. It is because there is such a large potential to do grievous damage of great magnitude with so few casualties that the public has demanded that these few casualties be reduced even further.

Some of us overflow the harbor this morning and have had a first-hand look at some of the factors which have influenced our system design. Each port has its own geographic and traffic density problems and is therefore unique. There is no one system that will solve the traffic problems of all ports and waterways.

For those who did not make the flight this morning, let me briefly review the composition of the Port of New York in terms of geography and traffic.

The Port of New York, according to the compact reached in 1921 between New York and New Jersey, is defined as an area of some 1,500 square miles within a 25-mile radius from the Statue of Liberty located in upper bay.

As you can see, the actual navigable channel area, shaded in green, is substantially smaller than the total area, and in the lower bay the difference is more apparent—see figure 2. So you can see that although the total area is extremely large, the area available for the navigation of large vessels amounts to less than 15 percent of the total area. The port areas has a water frontage of 750 miles of which 460 miles are in New York and 290 miles in New Jersey.

Geographically, it offers one of the best natural deepwater harbors in the world today. An ice-free port and seldom hampered by fog, it has an average tidal range of only  $4\frac{1}{2}$  feet.

The upper bay can be considered the center of a huge wheel from which the port's major navigable channels extend. It contains a large protected anchorage basin. Deepwater piers along the Staten Island and Brooklyn waterfronts are only 9 miles from the open sea.

The Port of New York has six major entrances for vessels. Entrances to lower New York Bay include Ambrose Channel and Sandy Hook Channel from seaward and Raritan Bay Channel from inland points.

Upper New York Bay is served from seaward by the Narrows, Long Island Sound, the East River and Kill Van Kull.

Together, these are the basic inner harbor channel systems from which the major branch and spur channels emanate. The channels range in bottom width from 150 feet through 2,000 feet, and a controlling mean low water project depth from 12 through 45 feet.

According to available information, the total channel network of the port during 1973 served more than 216 million short tons of trade.

The Port of New York and its channel system handles all forms of vessel traffic, including passenger liners, tour boats, container ships, break-bulk general cargo vessels, petroleum tankers, dry bulk cargo carriers, and a large volume of tow boat traffic.

In 1971, some 18,193 of these arriving and departing ocean going vessels, operated by 185 steamship lines, united the Port of New York with other ports around the world. These vessels represent 21 percent of the total volume of ocean-going vessel traffic of the 11 major seaports of the United States during the same year. Particularly significant is the fact that the Port of New York accommodated over 8.5 million long tons of containerized cargo in 1971, more than twice the amount of the next leading U.S. container port.

Serving all marine cargo facilities is a harbor fleet of approximately 250 towboats and almost 1,300 pieces of floating equipment, including barges, lighters, scows and carfloats, thus adding to the volume of vessel movements between terminals, shipyards, anchorages, and similar intraharbor movements.

Particularly appropriate at this point are the remarks of Mr. Alfred Hammon; the supervisor of development and planning for the Port of New York Authority to the Subcommittee on Coast Guard, Coast and Geodetic Survey and Navigation delivered on August 11, 1970, on the proposed "Ports and Waterways Safety Act of 1970." I quote:

The Port of New York is and will continue to be a complex network of crossing and joining Federal channels, marked in various degrees by sharp turns, narrow constrictions, rip currents, narrow or low bridges and heavy concentrations of ocean traffic. At night or during periods of low visibility, navigational dangers in such areas increase considerably. In many instances hazardous conditions are not physically remediable. Where remediable, they can often be eliminated or modified only at tremendous cost. Further, as ships, such as tankers and container ships become longer, wider, deeper and faster, they tend to intensify these hazards, particularly since the economics upon which their construction and operation are founded stimulate rapid and undelayed port turnarounds. Traffic, fog, rain and snow impede rapid port turnarounds and can cost up to \$1,000 per hour in vessel time, not to mention the cost in dollars of injury and loss of time when accidents occur.

A preliminary vessel traffic system survey was conducted from November 8 through November 16, 1973, during the hours of 8 a.m. and 4:30 p.m. The purpose of the survey was to determine the number of vessels subject to a vessel traffic system underway at any given time within New York Harbor. The vessels which we intend to make subject to the vessel traffic system are the same as those subject to the Bridge-to-Bridge Radiotelephone Act, namely:

1. Every power-driven vessel of 300 gross tons and upward while navigating.
2. Every vessel of 100 gross tons and upward carrying one or more passengers for hire while navigating.
3. Every towing vessel, while towing, of 26 feet or over in length while navigating.
4. Every dredge and floating plant engaged in or near a channel or fairway in operations likely to restrict or affect navigation of other vessels.

During the survey from 48 to 106 vessels subject to a Vessel Traffic System were actually observed underway simultaneously. From this traffic survey it was determined that a maximum of 147 vessels, subject to a Vessel Traffic System, could currently be underway at any one time. Subsequent traffic data has served to verify these figures—see Figure 3.

Referring to the Vue-graph, the upper figures within the boxes are the mean and the lower figures are the maximum hourly traffic densities recorded at the locations indicated. The locations circled are particularly hazardous for the navigation of large vessels and tugs with tows because of limited visibility and narrow channels. The conditions in these areas merit particular attention in planning a Vessel Traffic System for New York.

With the probable exception of very large oil tankers and dry cargo bulk carriers, the Port of New York may logically be expected to handle the largest of the vessels expected to call at any port of the United States in the next three decades.

The preceding information provides an overview of the type of general planning and the quality of information available at our local level to undertake the specific tasks of implementing a vessel traffic system in the port of New York.

In 1972, concurrent with headquarters planning, Commander, Third Coast Guard District, asked Captain of the Port New York to conduct a local Maritime Hazards Study which first dealt in detail with the complexities of local geography and traffic densities—see figure 4.

Soon after that study, in response to a headquarters' request, an acquisition, construction, and improvement proposal for a New York vessel traffic system was drafted and was made up of the system elements recommended later by the analysis of port needs.

In 1973, the Captain of the Port New York completed a vessel traffic system study which used the results of the maritime hazards study to make the first local effort in the transition from general to specific planning for the system.

During 1973, the need for advice from the broad spectrum of maritime interests and the need for a dedicated Coast Guard Project Staff were identified. This resulted in the establishment of the Vessel Traffic System Advisory Committee in April 1973, and the Vessel Traffic System Staff of Commander, Third Coast Guard District.

Membership in the advisory committee represents a cross-section of the maritime community made up of shipping, port, maritime, boating, and environmental interests. This committee is a valuable associate in assuring that our system not only increases safety but meets the needs of those who will participate in it without undue burden.

During the period August 1973 through February 1974, the vessel traffic system staff identified the local tasks and procedures necessary to implement our vessel traffic system. The initial planning effort was estimated at 60 man-years and several millions of dollars distributed over a 24-month period.

National and Coast Guard priorities have dictated a substantially reduced planning effort coincident with available personnel and funds and the acceptance of the attendant risk that system effectiveness might be reduced. It was therefore necessary to minimize planning errors and maximize local staff effectiveness to insure that the fore-shortened planning would not result in an ineffective system.

Far more detailed information on ship characteristics, traffic behavior, harbor geography, traffic hazards, and existing communications usage was required for an acceptable functional design.



We found that the most effective way to characterize both harbor and traffic parameters was through a well-structured data base that would be accessible in minimum time. A plan to accomplish both data collection and analysis was developed and resulted in a most efficient information system which has served us well. An expenditure of approximately \$70,000 was required for necessary equipment.

This information system, the harbor image data base, presently consists of 230 days of vessel traffic density, harbor geography, communications usage, traffic hazard, and environmental information that has enabled our staff to progress through a logically structured approach to the final functional design for the New York Vessel Traffic System.

This approach is best described as follows:

I refer to the Vue-graph. The harbor area was divided into small manageable areas, unrelated to actual system sectors because of the analysis techniques available. Data was collected reflecting the total environment, the vessel's characteristics, and the traffic density in the area.

Harbor geography was defined in usable terms. Dimensions of all channels, descriptions of existing aids to navigation, and prominent land areas were quantified to form the boundaries of the areas where the vessels maneuver.

Ship characteristics were analyzed to roughly determine the maneuvering capability of the various classes of vessels which use the harbor. This analysis has grossly defined vessel relationships to one another in the channels and has provided an assessment of a channel's ability to contain traffic.

Weather effects limiting visibility were considered versus vessel maneuvering capability to determine optimum safe traffic separation.

The safe traffic capacity of each segment was then estimated. The segments which represent actual conditions were then assembled to form a dynamic traffic profile of the harbor.

See figure 6—the safe capacities of the small segments were used to define route networks throughout the harbor. It is this point where we find ourselves now with the remaining blocks in process of final implementation. An evaluation is being made to determine if traffic densities exceed the estimated safe capacities and, if so, then methods to reduce traffic to a safe level will be used, such as limiting traffic through an area. If the densities are safe, then methods to manage the flow along the routes will be used to preclude potentially hazardous encounters in physically restricted maneuvering areas.

Hazards, both physical and operational, are being identified and listed and then ranked according to degree. Physical hazards, such as obstructions to visibility or obstructions near channels, are being evaluated so as to reduce their effect on traffic flow.

For example, some hazards may be eliminated by establishing a new aid to navigation or by recommending a demolition or a dredging operation through the Corps of Engineers.

Various rules and regulations will be developed and considered to minimize a particular hazard's effect on traffic flow. During this phase, the Vessel Traffic System Advisory Committee will be particularly involved in recommendations concerning the proposed rules.

In cases where conditions fluctuate to the extent that rules and regulations would be ineffective for all situations, it will be the direct action of the Vessel Traffic System Controller, through communicating advisories to the vessels concerned that will minimize the effects of potentially hazardous encounters in restricted maneuvering areas.

Following this approach, it has become obvious that cost/benefit analysis and other general indicators of Port VTS requirements have not addressed the practicalities involved in actual system implementation. I am sure they were never intended to.

We found this illustrated when we estimated the ability of a particular system level to manage the high traffic densities found in the relatively small navigable areas in New York harbor.

We found, and the VTS Advisory Committee agreed, that a communications based VMRS could not effectively manage traffic, nor could it improve safety in the harbor. In fact, quite the opposite would have occurred. The mariner would have been burdened with additional communications loads that would have served to provide the vessel traffic center with information without any significant benefits returned to the mariner. The imposition of this system level would have unnecessarily diverted the mariner's attention from his primary task which is the safe navigation of his vessel.

The Commandant's Office of Environment and Systems was notified of this development, and the VTS Staff was subsequently tasked to generate the specific operational requirements for the New York System.

With the aid of our data base and the help of the VTS Advisory Committee, the specific operational requirements were completed in October 1974, and represents, without regard to cost, the system functions necessary to provide a safe effective traffic management system for New York harbor.

It was readily apparent that the funds currently appropriated and the time necessary to apply existing technology were inadequate to implement a system containing all the functions specified in the SOR. Therefore, Commandant, Office of Engineering, responded with specifications for system hardware procurement which will provide, within present funding levels, most of the functions required by the SOR.

The system hardware will be sufficient to allow us to engage in traffic management methods which will reduce potentially hazardous encounters, harborwide, with minimum burden on the mariner.

We recognized that some near term action to improve harbor safety was necessary. Therefore, the current voluntary "Safety Broadcast System" was implemented—see figure 7. This system formalized and standardized the local practice of individual vessels broadcasting their intentions, on the bridge to bridge channel, to transit areas known to be hazardous if an approaching vessel encounters another without prior warning.

The points at which broadcasts are made are shown in the numbered circles. The direction that the vessels are traveling when they make the broadcasts are indicated by the arrowheads. The details of the system are published in Local Notice to Mariners, No. 33, dated July 25, 1974.

Participation has been excellent, and this system is providing a good evolutionary springboard for transition to an active traffic management system.

This next Vue-graph, figure 8, is a simplified critical path network, showing the remaining tasks. It is the most realistic implementation schedule, considering available staff resources, that we are able to forecast at this time.

The heading scale represents calendar months from April 1, 1975 to 1 May 1977. Each line, or path, represents a task versus time, and is drawn to show its dependence on, or relationship to, other tasks.

The most critical path is Coast Guard Headquarters' procurement, installation and off-line testing of system hardware.

There are several significant tasks that must be completed locally prior to activating a centralized traffic management system:

First. Rules and regulations governing the system must be formulated with the aid of the VTS Advisory Committee. They must be in nearly final form before publishing the Operations Manual and Vessel Traffic Center Manual.

Second. A controller training program must be developed and approved prior to the arrival of operating personnel. This program must be carefully prepared because we recognize that, initially, the controller will have never managed traffic and the local mariners will have never participated in a management system. We must build a basis on mutual trust and confidence with each other in order to have a successful system.

Third. Controller training and on-line testing with the mariner must be completed prior to activating the system.

I think that this explains most of the line items and our schedule should lead to system operation by mid-1977.

This concludes my presentation.

If there are any questions, I will be happy to answer them if I can.

At the conclusion of the question period, please feel free to examine our display material which illustrates some of the techniques used in assembling our data base. My staff and I will be available to answer further questions.

Thank you.

Mr. BIAGGI. Thank you very much, Lieutenant Commander Johnson, for an excellent statement.

Mr. du Pont will, of necessity, be required to leave some time before the meeting is terminated. In view of that, we are privileged to accord him the opportunity to question you in this area.

Mr. DU PONT. Thank you, Mr. Chairman.

I am going to have to leave a little bit sooner. So, first, I appreciate Mr. Biaggi's initiative to get these hearings going, and I look forward a week from Monday to continuation on the Delaware River hearing where we have a situation that is very different than the problem that you have in New York. It is less sophisticated at the moment, the traffic problems are less in terms of volume, but the rate at which we have been having problems there, I think a hearing is perhaps overdue.

I appreciated the tour this morning and had an opportunity to see, as the Chairman pointed out, from the air some of the very difficult areas that you have surrounding New York, particularly on the New Jersey side.

Do you anticipate that the vessel traffic system is going to adequately be able to handle the more difficult blind corner problems?

I can see it on the East River where the corners are not so bad, but in the New Jersey area there are some very difficult areas.

Lieutenant Commander JOHNSON. Yes, sir, I think we will be able to handle it adequately.

Of course, radar surveillance in areas of this sort are traditionally ineffective because of the geography and sight ability. I think with the aid of some low light level television for local surveillance and the communications system which will support the vessel traffic system, it will be able to sequence traffic through these areas and reduce the hazards.

Mr. DU PONT. Would you say that the limiting factor in the development of these systems is the technology, is the money, or is the training time required to get people to use the technology that will be available?

Lieutenant Commander JOHNSON. I think principally it is at this juncture the money.

The technology is available that just has not been applied to this particular application principally, this harbor. There is a lot of planning and development work that would have been necessary to support the system that we outlined in our specific operational requirements. There simply was not the time or the money at that time.

I do not think that the system that is implemented in 1977 will be the final system in New York Harbor. I think that there are some other techniques that are available that might be marshalled to solve some of the problems in a little bit easier fashion than we are going to be able to do at the outset.

Mr. DU PONT. I have never heard anybody testifying before a congressional committee that did not say money was the bottleneck. So maybe that is the expected answer.

But, judging from what I have seen today, and from your statement, it sounds to me like you anticipate no technical problems other than getting the equipment in place, which is a physical and time one.

Lieutenant Commander JOHNSON. Yes, sir.

The other problem which is attendant to the money problem, of course, is the personnel that we have available to implement the system.

The CPM chart that you saw at the end there was a pretty complicated chart. There are a lot of local tasks, but I think, given that amount of time, I think we can implement the system within the capability of the hardware that we are being provided.

Mr. DU PONT. I thank you, Commander, and if I stay much longer, I am going to miss my train. So I am going to depart.

But, at the conclusion of your questioning, my counsel has some specific questions that he will take up.

Mr. BIAGGI. Thank you very much. Bon voyage. Do not travel in the harbor.

Dealing with the money factor, Commander, what is the present level of funding these systems?

Lieutenant Commander JOHNSON. The total funding for New York Harbor that exists is, I believe, \$5.5 million, plus or minus a few thousand.

Now, this amount covers the system hardware that we will be providing. This is a Coast Guard Headquarters' function. Our functions are the other planning factors, generation of procedures, rules and regulations, various manuals that will be used, and the procedures that they cover and, of course, the training program.

Mr. BIAGGI. Will there be any additional funds required?

Lieutenant Commander JOHNSON. I believe in the future that they will, and I believe that the Commandant, Office of Environment and Systems, is addressing this now.

Mr. BIAGGI. You mentioned by 1977.

What will be the time frame of the various phases of development of the proposal?

Lieutenant Commander JOHNSON. Beyond that, you mean, sir?

Mr. BIAGGI. Up and until.

Lieutenant Commander JOHNSON. To that time.

Could I have the Vue-graph back up there? It is probably the easiest to explain by that. The whole thing.

Next to the bottom line is the headquarters' task of procuring the hardware, bring it up onto on-line testing and turning it over to the local people.

Now, also another headquarters' function is authorizing the people and seeing that they arrive onboard so that we can commence training at that time.

Now, during—prior to that time, our training program has to be developed, but we really could not start in any detail in this unit we knew the capability of the system hardware that was being provided, and that has only been very recently given to us, sir.

We have done an analysis of the capability now, and we are going to be able to proceed in here to generate the training program and, at the same time, a fallout of this will be rules and regulations and our operations manual. The operations manual is intended to be a mariner's guide. This will be the booklet that will explain how the system works to the mariner.

Then, of course, we will have our own internal center operating procedures, and that will occur sometime after the rules and regulations are nearly in final form.

Mr. BIAGGI. Tell me precisely where you are with that plan as far as New York Harbor is concerned now.

Lieutenant Commander JOHNSON. We are—let us see. Right about here [indicating]. We just as a matter of fact, in defining the system performance requirements, we are just about finished with that now—OK, you point—we are just about there [indicating]. We have done some preliminary development in the training program and analyzing the task that we are required to do in order to implement this program, what skills are we going to have to give the operators in particular that come to us; what does he already have; how long is this going to take?

And it is astonishing the amount of hours that it does take. It takes about 50 hours of preparation time for every 1 hour of classroom time.

Mr. BIAGGI. You are talking in terms of three segments, if I recall correctly?

Lieutenant Commander JOHNSON. Yes, sir.

Mr. BIAGGI. You are talking in terms of radar?

Lieutenant Commander JOHNSON. Yes, sir.

Mr. BIAGGI. You are talking in terms of computers?

Lieutenant Commander JOHNSON. Yes, sir.

Mr. BIAGGI. And low-level television?

Lieutenant Commander JOHNSON. Yes, sir.

Mr. BIAGGI. In what order will they be installed?

Let me put the question this way, can we expect a partial installation so that we will have the partial benefit of the overall plan?

Lieutenant Commander JOHNSON. No.

I think the system should be installed in total before it is ever switched on to be used, because most of the other tasks will not have been completed by that time. It is all geared so that it comes together at the end, and we test it, and we are sure of what we have got. And we are sure that we are not going to needlessly burden the mariner in the harbor before we turn it on. And we must make some kind of assessment on how good the system operates before we turn it on officially.

Mr. BIAGGI. What is your reaction to the GAO recommendation that it delay plans for the electronic surveillance in the East River and Newark Bay?

Lieutenant Commander JOHNSON. Well, I think New York's particular case, I think some form of surveillance in these areas are mandatory in order to efficiently manage traffic. It gives you—radios alone in these areas, because they are so short and so narrow, and there is so much traffic, tend to be ineffective because of the amount of traffic that you have to handle in the area.

You can see and verify that someone is there. Mariners have a tendency to be not as precise as we would like them to be in reporting their positions, and this is a natural thing to do. But we require a little more timely information and a little more frequent information than the mariner can really provide.

In other words, we would be burdening him needlessly with communications. We can see him normally. We do not have to talk to him unless there is going to be a conflict.

Mr. BIAGGI. I think you testified to the eligibility of ships, the requirement of certain ships to participate in this system?

Lieutenant Commander JOHNSON. Yes, sir.

Mr. BIAGGI. Again for the record, what are they and also will the ships which do not fall within that area be able to receive information?

Lieutenant Commander JOHNSON. Well, ships not subject to the system for the most part in New York Harbor are light running tugs, and they are equipped to receive information and normally would be listening on the channel, or at least on the bridge-to-bridge channel, on the party line system that we have now, so they would have the information.

Pleasure craft, probably not, but in the harbor area there is not that big an incidence of pleasure craft except down off Sandy Hook or up around the Throgs Neck area, and that would be dealt with separately.

Now, for the record, the vessels we intend to have subject to the vessel traffic system are the same as those subject to the bridge-to-bridge Radiotelephone Act. They are every power-driven vessel over 300 gross tons while navigating towing vessel over 26 feet, while tow-

ing, while navigating, every vessel of 100 gross tons and upward, carrying one or more passengers for hire while navigating, and every dredge floating plant engaged in or near a chanel or fairway in operations liable to restrict navigation of other vessels.

Now, there could possibly be individual exception to this if there are special cases. But, at this juncture in the planning, none are anticipated. But we certainly leave the door open as necessary.

Mr. BIAGGI. But pending the installation of this equipment in the implementation of the plan, what is the Coast Guard doing and what has it done in relation to GAO's recommendation for additional regulatory action dealing with hazardous cargo?

New York is always concerned about liquefied natural gas among others.

Lieutenant Commander JOHNSON. Well, we are looking at that kind of cargo as part of the traffic management problem and, of course, as I said this morning, some of the facilities are located in not the most advantageous places for vessel traffic management, located where they are commercially more feasible. But I think possibly if dangerous cargo is involved, we have procedures that we use for ammunition ships, such things as that, I imagine special procedures will be developed to handle this type traffic when it becomes a reality, where this is within our plan.

Mr. BIAGGI. What does that mean, Commander?

Right and special procedures will be developed?

Lieutenant Commander JOHNSON. Such as an escort for the vessel; such as requiring tugs, or such as establishing a security zone around the vessel during its transit if it becomes necessary.

Those are some of the ways that type of vessel can be dealt quite effectively with.

Captain PERKINS. Perhaps I can interject here.

We have LNG movements, the barge *Massachusetts* made six trips into the New York Harbor area.

During those trips, basically she was escorted. There was a security zone around her when she moved. She was permitted only to move during daylight hours.

That activity has been terminated. The safety provisions that were provided seemed to be entirely adequate. There were no problems.

When such activity is resumed, if it is, we would visualize similar types of control over that movement and that control would be exercised through the VTS system.

Mr. BIAGGI. You are completely satisfied that that is adequate in provision?

Captain PERKINS. It appears to be completely adequate, yes, sir.

Mr. BIAGGI. Generally speaking, when we put out new regulations or start something new in the Coast Guard or Government, generally somebody out there in the public gets a little bit of a licking.

What effect will this have on the industry as far as cost to the shipping industry in concerned?

Lieutenant Commander JOHNSON. I would hope that the cost of the shipping industry would be really zero in terms of dollars for additional equipment or additional people that they might require.

I think the only change the industry will notice will be operationally. In other words, the way the man on the bridge conducts his

operation. He would have to contact the Vessel Traffic Center in a minimum amount of times rather than pass movement information on vessel—on the bridge-to-bridge channel as he does now.

So he would do things differently. It would not be additional things that he would have to do.

Captain PERKINS. Can I add to that?

Mr. BIAGGI. Sure.

Captain PERKINS. There is one problem area, and that is the matter of the number of radio frequencies that these vessels have to guard.

We are going to impose an additional—another guard frequency. We hope to resolve that so that it will not cost them anything by getting the FCC to agree to let the Coast Guard stand their guard on the channel 16 while they are in this system.

If this works out, then there will be no increased cost to them because they will still be guarding the same number of channels.

Mr. BIAGGI. I know you have an advisory committee.

Will counsel of the Coast Guard advise them directly of your plans through that committee?

Lieutenant Commander JOHNSON. Yes, sir.

We work very closely with the advisory committee. They worked as an associate in the development of our specific operational requirements before they were submitted to headquarters. We tussled about this for a number of months, and the requirements that we laid down were those that the cross-section of industry agreed with as being adequate and meeting the needs of the mariner in the harbor.

Mr. BIAGGI. One more question—well, one of two.

You testified—I am sure I will hear from the industry on that score—you testified that 52 percent of the accidents that occurred were preventable.

Lieutenant Commander JOHNSON. Yes, sir.

Mr. BIAGGI. Now, if these plans are implemented, total package, what effect will that have on those 52 percent?

Lieutenant Commander JOHNSON. We hope that that 52 percent would go away.

In other words, we anticipate that much reduction.

Mr. BIAGGI. I asked you this question before, but I will ask you again for the record.

I think the Indians could invade America, coming down the Hudson without anybody—without colliding with any ships.

Lieutenant Commander JOHNSON. Yes, sir.

Mr. BIAGGI. Now, are those plans—will those plans be extended up the Hudson River and, if so, for what purpose?

Lieutenant Commander JOHNSON. It is possible. We have looked at this and we have had a Hudson River group that has been a sub-committee of our advisory committee. And if the traffic density, or if the conditions warranted it, why, our system could extend this as far as Albany in the form of vessel movement reporting system.

The reason that we need to go as far as the Yonkers Pilot Station at this time is to have control over the southbound input and to the system so that we knew if a vessel's route is around Manhattan or into the kills. Then we will need some advanced warning of their coming.

Mr. BIAGGI. Here is an issue not necessarily germane to the purpose of this oversight hearing, but it relates to the total picture.



Currently, New York City is undergoing a terrible fiscal crisis, and there is a threat of the elimination of New York City marine fire-fighting units.

Does the Coast Guard have the capacity to fill that gap?

Lieutenant Commander JOHNSON. I would like to defer that to Captain PERKINS if I may, sir.

Captain PERKINS. On a one-for-one basis, no, sir. Their fireboats are much more sophisticated and much better outfitted than anything we do have.

We do have in the port area several small harbor tugs that belong to the Coast Guard, that have minimal firefighting capability. We have several patrol boats that have portable pumps that can be used for firefighting capability. We do assist the city whenever we can, using these facilities, but I would not propose for a second that they were equal to one of the big city fireboats.

Mr. BIAGGI. So if the fireboats are eliminated, any fire that starts along the shoreline or on the vessel, the best way to control it is to permit it to burn out?

Captain PERKINS. It could prevent a very serious problem if the fireboats were eliminated, yes, sir.

Mr. BIAGGI. In pursuit of that thinking, as a result of the same fiscal crisis, there is a threat of eliminating the harbor unit, harbor precinct of the police department.

If that were eliminated, could the Coast Guard be required to supplement its forces?

Captain PERKINS. Here, again, we work very closely together with the harbor police. Many of our activities and patrols are coordinated.

If they were withdrawn, it certainly would leave a void in many areas that we could not fill.

Mr. BIAGGI. And it is safe to say then if the vessels that are ordinarily calling for help are sinking or distressed in any other fashion, they would suffer as a result of the elimination of the harbor precinct?

Captain PERKINS. Yes, sir.

Mr. BIAGGI. You could have a loss of lives as a result of it?

Captain PERKINS. You could conceivably, yes, sir.

Mr. BIAGGI. Fine.

Thank you.

Mr. HEYWARD. In connection with that last question, Captain Perkins, the Coast Guard has no statutory responsibility for fire-fighting?

Captain PERKINS. No.

We do it on a cooperative basis.

Mr. HEYWARD. Let us suppose the Coast Guard were given that responsibility.

How much would it cost to substitute for the firefighting capability of New York City in the harbor area. Do you have any idea?

Captain PERKINS. I do not have—no, not a figure.

I would feel that it would cost essentially what it is costing the city.

Mr. HEYWARD. Plus, assuming some costs in taking over the boats themselves?

Captain PERKINS. Right.

Mr. HEYWARD. In connection with the last question the chairman asked about vessels in distress, the Coast Guard does have the responsibility in search and rescue?

Captain PERKINS. Yes.

Mr. HEYWARD. That is not left to the New York City forces?

Captain PERKINS. No.

But there are many areas that they work with us.

Mr. HEYWARD. In connection with enforcement of criminal laws, there would be a lack of authority to enforce the criminal laws depending on what laws were being violated?

Captain PERKINS. That is correct.

Mr. HEYWARD. In connection with your statement earlier, Mr. Johnson, there is—and I think this may have been what Mr. Biaggi was partially getting to—there is a partial utilization of some sort of vessel traffic control now in the reporting system, voluntary or otherwise?

Commander JOHNSON. Yes, sir.

Mr. HEYWARD. Which would be a part of the new system, too, but your answer, I take it, was that the electronic equipment which would ultimately be required should all go online at the same time?

Commander JOHNSON. Yes, sir.

Mr. HEYWARD. For whatever parts of the system it would operate?

Commander JOHNSON. That is correct.

Mr. HEYWARD. In connection with incidental or single incidents of movement of hazardous cargoes, liquefied natural gas and others, the captain of the port has the authority, does he not, to take whatever necessary measures there are to protect the vessel and the surrounding area as those cargoes move?

Commander JOHNSON. Yes, he does.

Mr. HEYWARD. It then becomes a matter of being informed as to what he is moving?

Lieutenant Commander JOHNSON. Yes, sir.

Mr. BIAGGI. Mr. Olney?

Mr. OLNEY. Thank you.

Commander Johnson, on page 16 of the GAO report, which I think you are familiar with, there is reference to interim traffic regulation measures to be incorporated until a vessel traffic system is in place.

According to the report, on December 4, 1974, these were still under consideration by Coast Guard Headquarters.

Could you tell us the status of those regulations?

Lieutenant Commander JOHNSON. I wonder if I might defer this to Captain Perkins?

This is with respect to the proposed speed limits—

Mr. OLNEY. That is correct.

Lieutenant Commander JOHNSON. That are outlined here.

I believe Captain Mosher yesterday of Coast Guard Headquarters made some remarks to the subcommittee regarding vessel speed limits. It has been studied. Some of the propositions about vessel speed limits have been discussed with the vessel traffic system's advisory committee, specifically by the captain of the port, and it is not generally felt that an arbitrary speed limitation would improve safety to any great extent because of the difference in vessel size and maneuvering characteristics. And there are so many factors involved, it would be very difficult to establish one speed limit that is applicable to all vessels.

Mr. OLNEY. I understand that.

I just wanted to determine the status of the regulations at this time. A related question on page 18 of the same report; apparently the Captain of the Port of New York was proposing regulations for eliminating vessel movement during heavy fog conditions.

What is the status of those regulations?

Lieutenant Commander JOHNSON. As far as I know, it is still under study and it is also still part of the considerations that we have in implementing a vessel traffic system because we do recognize that reduced visibility increases the hazard of a vessel casualty collision in grounding measurably.

Specifically what to do about it, we have not established yet, but we would certainly deal with it before any system is implemented.

Mr. OLNEY. Then your intention is, if you are going to introduce regulations, to bring them on-line as part of an entire package?

Lieutenant Commander JOHNSON. Yes, sir.

And I am sure if the captain of the port felt it was necessary beforehand, he would do so.

Mr. OLNEY. Captain Perkins?

Captain PERKINS. In the same general area, we have recently instituted procedures that require much stricter watch standing on the vessels that are anchored in the anchorage of the upper bay.

We have had a lot of problems in that area with vessels dragging one into another because they were not properly manned.

This is the only recent major change that we have made.

Mr. OLNEY. I have another request, and I am not sure if you have this information available.

On map 2 of the pamphlet you gave us this morning, you cite that there were 195 reportable accidents during the period fiscal years 1969 through 1975.

The captain of the Port of Philadelphia provided the subcommittee with a breakdown on each reportable accident occurring on the Delaware during this period. Each summary is about four or five lines long.

Do you have similar breakdown or a summary?

Lieutenant Commander JOHNSON. We have a breakdown. This is in our data base and we access it by query. And it certainly could be provided. I am not sure if we have one with us.

Mr. OLNEY. If it is not unmanageable, could you send it down?

Lieutenant Commander JOHNSON. I am certain we could provide it for you, yes.

[The information was not received at time of printing.]

Mr. OLNEY. A question relating to figure 8 on your presentation; the electronics equipment that you are requiring.

Is this first generation equipment or are you purchasing technology that is already available?

Lieutenant Commander JOHNSON. This is available technology. This is the so-called off-the-shelf state of the art.

Mr. OLNEY. The reason that I ask is because Congress is a little bit sensitive about cost overruns, as soon as you get into development of new technologies, the estimates can vary widely.

Lieutenant Commander JOHNSON. Yes.

Mr. OLNEY. And I have one last question in regard to monitoring the various frequencies.

I have heard complaints from some of the operators that the master is required to monitor too many channels at the same time, and this is one of the fears of a VTS system, that this is yet another distraction from navigational duties.

Could you elaborate on this?

Lieutenant Commander JOHNSON. Additional communications are always an onerous task to any vessel master because of the attention that he must give to maneuvering the vessel. But we try to recognize this in implementing the system by recommending, through Admiral Rea, to the FCC that the system assume the mariner's channel 16 guard and also to minimize any communications within the system directly related to the center, except in regard to hazardous encounter or things of this nature. Try to minimize the impact on the man maneuvering the vessel.

Mr. OLNEY. But you are generally satisfied that there is not a lot of extraneous conversation on these channels today?

Lieutenant Commander JOHNSON. Yes, sir.

I think when we first started monitoring the bridge-to-bridge channel, in particular, there were a lot of extraneous transmissions on it.

I think in a year and a half that we have been dealing with it, the extraneous transmissions have dropped off considerably. You still hear a few, but I think you always will hear some.

But I think, by and large, it is fulfilling the function that it was intended to these days. It is very heavily used, but I think it is being used for its intended purpose.

Mr. OLNEY. You do not feel there is a need for an additional frequency to be dedicated to VTS purposes?

Lieutenant Commander JOHNSON. Well, now, I was talking about the bridge-to-bridge channel.

Yes, there is definitely a need for additional frequencies to be used in a vessel traffic system because the character of the communication system is different.

The bridge-to-bridge communication system, the vessels are only talking to one another and principally they are talking to those who are quite near to them, and this takes advantages of favorable characteristics of the FM system.

But, in a centralized system, I think if we try to implement it on a single channel, it would be a disaster. We just could not service that many potential users at once. So it must be sectorized and we must have additional channels for a vessel traffic system.

But the mariner should not have to communicate with us except on them one at a time.

Mr. OLNEY. Thank you for your presentation, sir.

Thank you, Mr. Chairman.

Mr. BIAGGI. Yes.

One question, and we will move along.

Is it within your contemplation that after the new systems are installed, you will maintain the same procedure as far as transporting hazardous cargoes?

Lieutenant Commander JOHNSON. You mean with respect to potential escorts or security zones or things of that nature?

Mr. BIAGGI. Yes.

Lieutenant Commander JOHNSON. Very possibly so because without the assistance of automatic radar tracking and acquisition and auto-

matic traffic management routines, I think we are kind of on a manual system in that regard in that the same kind of escort or security procedures would be necessary until the traffic management system is sophisticated enough to negate the need for any special escort.

But this is a long way in the future, I think.

Mr. BIAGGI. Captain Perkins?

Captain PERKINS. When the barge *Massachusetts* was here, she only made six trips. She came in once every few days or few weeks—I have forgotten exactly—but these were very, time-wise, very isolated incidents.

When this thing gets to be a—if I can use the expression “mass transit problem,” transit of this type going frequently through the harbor, we undoubtedly will have to have a real hard look at it and we might do things differently.

Now, what it might be, I do not know.

Mr. BIAGGI. It is my understanding of the response of Commander Johnson and yourself, that there is no assurance that the same intensive attention will be given to hazardous cargoes once we get the new systems into effect.

Captain PERKINS. No, I did not mean to convey that.

Mr. BIAGGI. That was my understanding.

Captain PERKINS. The same attention will be given. Whether we will do it with the same mechanics we did this isolated incident, we cannot say here.

Mr. BIAGGI. What will be the alternative—I would suggest that—

Captain PERKINS. Well—

Mr. BIAGGI. It is a critical issue as far as the subcommittee is concerned. You are aware of it and I am aware of it, and the subcommittee is aware of it.

We do not want any unfortunate occurrence to develop as a result of some omission on anyone’s part, and I am sure that applies to every facet of the industry.

We would suggest that you continue to focus attention on it in the measure that it deserves. I do not suggest that the new systems should result in a diminution of attention at all.

Lieutenant Commander JOHNSON. No, that was never our intention at all.

Mr. BIAGGI. I want to thank you, Captain Perkins, Commander Johnson, for a wonderful morning, an informative morning. And we learned more from the sky than riding these waters, and it only punctuates the need for new systems. Hopefully, they can be implemented to everyone’s satisfaction as quickly as possible.

Thank you for your testimony, and we appreciate your cooperation.

Captain PERKINS. We appreciate the opportunity to be here.

Mr. BIAGGI. Thank you.

Capt. Kenneth Torrens, would you care to testify?

#### STATEMENT OF CAPT. KENNETH C. TORRENS, FARRELL LINES, INC.

Captain TORRENS. As chairman of the Executive Committee of the Advisory Committee, Admiral Will, chairman of the Full Committee, is not here. I have no particular comments other than to confirm that the Advisory Committee has been working very closely with the Coast Guard, and we do represent a cross section of the industry and of the users of the harbor; that we hope to be of additional assistance to both

yourself and to the Coast Guard in their formulation of a proposed system.

We have, in fact, very substantial agreement in everything that they have said today in their proposals; that if you have any other questions, I am prepared to answer them.

Mr. BIAGGI. One question.

You heard the answer, and I would like to hear it from you as a representative of the industry.

I posed the question, what, if any, additional costs would be imposed on the industry, and you heard their answer.

What would your answer be?

Captain TORRENS. I would substantially agree as long as we can keep the number of channels that are required to be monitored by the mariner to a minimum, and the Advisory Committee has gone on record as feeling that two channels should be the maximum that is required of a mariner to be monitored while he is trying to safely navigate his vessel. Above two channels would create two things—probably a more unsafe condition and, second, it would probably require equipment which would be a burden.

Mr. BIAGGI. Thank you, Mr. Torrens.

Mr. William Cleary representing the New York Towboat and Harbor Carriers Association.

#### **STATEMENT OF WILLIAM CLEARY, NEW YORK TOWBOAT AND HARBOR CARRIERS ASSOCIATION**

Mr. CLEARY. Congressman Biaggi, at this point, I should like to defer to Mr. Robert W. Sanders, who is the representative of the towing and transportation industry on New York Harbor vessel traffic advisory system.

Mr. Sanders.

#### **STATEMENT OF ROBERT W. SANDERS, RED STAR MARINE, INC. ; MEMBER, EXECUTIVE COMMITTEE OF NEW YORK HARBOR VES- SEL TRAFFIC ADVISORY SYSTEM**

Mr. SANDERS. Congressman, I do not have much to add, and I am in substantial agreement with Commander Johnson.

I do have something to say, however, concerning the two aspects of this problem.

I have to be repetitious. Counsel for Mr. du Pont was mentioning this factor of number of channels aboard a tug and its radio equipment, and I think it bears repeating as to what the real concern of the towing industry is.

These tugs, there are probably 200 or 300 tugs in this harbor. A vast majority of them stay in the harbor 24 hours a day, as opposed to a ship that would be here for a few days, discharge its cargo and go back to Europe or wherever it would go.

The men on the—in the pilothouse of these tugs have to listen to these radios 24 hours a day.

Now, at the present time, we are required by law to monitor channel 16, channel 13, and because of the economics of the harbor, we have to monitor our own private channels which each towing company

operates. So there are three channels at the present time on the air that we have to listen to.

It gets to a point where we feel a problem will develop if the man is required to listen to any more because the pilothouse is confined; the radio equipment itself is compact; some of the equipment is made with one speaker so that it is difficult to determine whether you are hearing the channel 16 or channel 13, or your house channel. It is all coming from one direction.

Now, there are some sets, and most of us have gone to a system where you can separate the speakers just for the purpose of assuring that they understand which channel they are listening to.

A sectorized system in New York Harbor would require us to again listen to another channel, the vessel traffic system channel. It would also require, if there were several channels who are vessel traffic systems, it would require the operator to constantly change from one channel to another.

Now, there is one man in the pilothouse at the time, and he has to steer the tug, watch out for the traffic, look out for what is behind him and so forth, answer these radios.

We feel that it is a definite safety factor involved here and that we should not progress beyond the need for a man to listen to three channels.

If the Coast Guard were able to get the—what is it, the Federal Communications Commission, to allow us to—allow the Coast Guard to guard channel 16 while the vessel is within the control of the vessel traffic system, then the tugs would not have to monitor 16 and that channel would be open and free to be used for a vessel traffic system.

If the tug left the harbor, why again he would have to stand his own watch on channel 16 in pursuance to the law.

That is all I have to say on that subject.

I think you asked a question, Chairman Biaggi on the economic impact. I think one of the problems with the economic impact is that we really do not know.

Now, you just asked about the transportation of liquid gas, liquefied gas. And as I understood the answer, the Coast Guard feels, at some place down the line, once the full hardware is in and the system implemented, they will be able to monitor traffic and control the traffic in such a way that they would have provided the same area of safety as now provided by, let us call it personalized watching of that particular gas vessel, which is probably true, and I think it probably could work.

But the minute you say that you are going to control the traffic, then the industry has to arrive at the next conclusion, which means that somebody has to wait while all these other things are going on. Somebody is not going to get to the berth; somebody is not going to meet the ship, or a ship is not going to come into the harbor. And as soon as you have the power to control the traffic and to regulate it for whatever purpose, there has to be some economic impact on the financial condition of those vessels which must wait for the traffic to be cleared or whatever is going on.

And so—

Mr. BIAGGI. Excuse me.

But do you not have that condition now where you have these big liners waiting outside in the harbor, waiting to come into their berths because they are coming at a time when we have a lot of traffic along the river and in the harbor?

Mr. SANDERS. No, I do not think that the—I think that the inadequacy of the anchoring ability for large tankers is the big problem in New York Harbor.

There are some ships that have to wait outside for that, but I think most vessels proceed into the harbor without undue delay.

Mr. BIAGGI. Why do not we get a response from Commander Johnson to that?

Lieutenant Commander JOHNSON. Yes, there is, as we discussed earlier, there is a queue that forms outside of Ambrose waiting to pick up a pilot, but I do not think it delays commerce excessively in the same context of what Mr. Sanders was talking about.

I think, by the same token, though, if a regulation was necessary to restrict the amount of traffic through an area, I do not think it would affect commerce as much as having a substantial casualty in the same area. This is disruptive to commerce as well as disruptive to property and potentially injurious to people.

Mr. SANDERS. It is like being for motherhood and against sin.

Lieutenant Commander JOHNSON. Well, we realize this is the problem and we realize what control can lead to, and it is our intent in the planning to minimize any impact on commerce.

Mr. SANDERS. I believe you are. I believe the Coast Guard will, and their record has been very good.

They have cooperated with us.

But I was trying to point out what our fears are. We were talking many years ahead, and then we hear you say things like, well, we can control traffic in such a way that will be just as safe. It makes us think that somebody is going to have to wait some place.

Mr. BIAGGI. Let me ask you this, and I appreciate your concern, of course, in talking about it, it brings it out and we will explore it.

What would be their purpose in delay?

The Coast Guard would have no purpose in delaying except if it had a salutary benefit on the total picture.

Mr. SANDERS. I agree. And it depends on who is defining what the salutary benefit would be.

If we leave it up to the men on the vessels, I think we can arrive at the same benefit, just bridge-to-bridge communication.

Let them figure out how they are going to pass.

Mr. BIAGGI. That is why we have an advisory committee that works together with the Coast Guard. We know the possible problems, and it is better to deal with them before they are developed.

In the spirit of cooperation, these things can be worked out, because I get the impression that that is exactly what is occurring here. There is a spirit of cooperation on the part of industry and the Coast Guard and Government in order to help the industry, help the whole shipping industry in this area to make it as safe as possible.

Lieutenant Commander JOHNSON. I would like to add something, if I could, to this.

Your fears about control are the principal reason why we have developed a traffic simulation capability of our own, of the staff, in order to try and measure what the effect of a particular rule limiting



traffic through an area would be on the total commerce and if it would unduly restrict it, then we would look for another method to regulate traffic flow that was less restrictive.

I think this is the current method that we are using to meet those kind of needs.

Mr. SANDERS. I agree.

Mr. BIAGGI. I got the impression that these new facets, this new technology that they will be installing, will be supplementing what you have, to deal with problems that really cannot be dealt with with this voluntary broadcasting system.

We have seen these blind spots. We have seen these narrow corridors of water which are treacherous and which have resulted in accidents. We have seen a number of these things, and the record speaks for itself.

And with that purpose in mind, I cannot see any untoward delay occurring. If there is a delay, it is simply in the name of safety. I am sure you have some of that now, even bridge to bridge. It will never be—it will never be utopia, but at least, even if you have a little delay, you get there in one piece which is more important in the end.

Any questions of Mr. Sanders?

Mr. OLNEY. Mr. Sanders, since you are representing tow operators, I would just ask the question about a typical tug operator.

If you were required to monitor more frequencies, would you have to buy new radios for your tugs?

Mr. SANDERS. No. The majority of the tugs that we surveyed had VHF sets that had more than three channels. There were a few in the harbor, but I think it was something like 75 percent of all tugs had the VHF sets.

The new sets that are coming out now have 24 channels, and the Coast Guard is rapidly filling them all up, I might add.

Mr. OLNEY. Commander Johnson was talking about what, five sectors where you would have different frequencies?

Lieutenant Commander JOHNSON. Yes, there would be three discreet vessel traffic system channels, only one of which would need to be monitored at a time in addition to channel 13, the bridge to bridge, if we are able to assume the channel 16 guard for the participants.

Mr. OLNEY. But, for the majority of operators, that does not require buying new equipment?

Lieutenant Commander JOHNSON. That is correct.

Mr. OLNEY. If you did have to buy a new radio, how much would that be?

Mr. SANDERS. I think it would cost us in the area of \$3,000 for a modern VHF radio that we would use all the time. The pilots have another problem. They have to have a set that is a small hand-carried set, the ones that go aboard the ships. They cannot carry a big box over their back. They have to have something they can carry up the ladder.

So they have to know what the limitation is going to be on channels.

Mr. OLNEY. Thank you.

Mr. HEYWARD. I would like to ask one question on this frequency problem. I do not think it has been asked before.

That is in connection with monitoring house frequencies.

Is there a possibility of call up on a monitored frequency, then shift to the house frequency, or are they—

Mr. SANDERS. Yes, it could do that on channel 16 and then—in other words, initiate a call on 16, and that would go over on house frequency. It could be done.

But, then, everybody in the harbor would be on 16.

Mr. HEYWARD. Yes.

Mr. BIAGGI. Thank you, Mr. Sanders.

Commander, you might as well sit there and relax, because I am sure there will be continuing colloquy between all the witnesses and ourselves and yourself.

Mr. Anthony DiMaggio of AFL-CIO Marine Engineers Beneficial Association.

#### STATEMENT OF ANTHONY DiMAGGIO, REPRESENTING AFL-CIO MARINE ENGINEERS BENEFICIAL ASSOCIATION

Mr. DiMAGGIO. How do you do.

Congressman Biaggi and the committee, I was caught short today. I only read about this in the newspaper yesterday. I wish I had known sooner.

But where I represent the masters and the—

Mr. BIAGGI. We only had a bridge-to-bridge communication.

Mr. DiMAGGIO. We did not have our radio on.

I represent masters, mates and engineers on the Staten Island ferries, and also the masters and engineers on the New York City fireboats.

Now, our captains on the ferries are very concerned about this vessel traffic system, especially on the new supertankers and container vessels coming out of the Kill Van Kull crossing the ferry slips.

I did submit a letter not too long ago to the Coast Guard hearing in Washington, and I understand that I was the only one from New York that was concerned enough to submit anything. It was a surprise to me.

But we feel that any tug-assisted vessel coming out of the Kill Van Kull should maintain the tugs so that they can keep maximum control at least until the Verrazano Bridge when they are clear of all the ferry slips and the anchorage.

We also feel that had this been the fact with the *Seawitch* and the *Esso Brussels*, that there may never have been any collision if they still had their tugs.

It is a practice to let go the tugs practically in front of the ferry slip. Then the vessel is hooking up and heading out to sea.

Mr. BIAGGI. Will you hold on?

Commander?

Lieutenant Commander JOHNSON. Well, this is something that the—

Mr. BIAGGI. I want you to know that I am completely uninitiated and I am in the learning process, and I would like to hear it from an authority.

Lieutenant Commander JOHNSON. Thank you.

The captain of the port currently is addressing a problem—I think there was a meeting yesterday with the captain of the port, Port Authority, and a couple of the members of my staff, concerning the same matter.

We are concerned about it. The captain of the port may feel it is necessary to take some steps to require tug assistance longer or maybe not.

The question is being discussed right now. We realize it is a problem. We have heard from the Staten Island ferry people and, of course, the long term from the vessel traffic system, we are looking at the problem, because that is a bad corner right there. There is no doubt about it.

Something that is equitable for everyone is going to have to be done, I do not think that we can get into a position of arbitrarily requiring tug assistance throughout the harbor. I think that would be a good way to shut us down. It would make the tugboat people happy for awhile.

But, beyond that, we might be doing them more harm than we will good. But, yes, we see it as a problem and we are trying to do something equitable about it.

Mr. DiMAGGIO. Another thing, we agree with the towboat outfits that spoke before—I think it was Mr. Sanders—on the confusion of monitoring all these radios, especially on the Staten Island ferry.

Now, the route of the Staten Island ferry is the same. It has been the same for 100 years at least. In fact—

Mr. BIAGGI. Did not we lose one in fog once?

Mr. DiMAGGIO. No.

They do run in fog, by the way. They never stop. I think one hurricane—

Mr. BIAGGI. Do you not have some tugs with the ferries?

Mr. DiMAGGIO. No, never.

Everybody knows—every ship that comes in, most every ship knows where the Staten Island ferry is going, but the Staten Island ferry does not know where every ship is going.

Now, if the ships were to report their heading in the Kill Van Kull or their heading to the North River or their heading to the East River, then the Staten Island ferry would know where he is going. But he already knows where the Staten Island ferry is going. He can only go from St. George to the Battery.

Mr. BIAGGI. Excuse me.

Is that a fact? All of these liners coming into the harbor know where the ferry is going?

Are they all familiar with—

Lieutenant Commander JOHNSON. They are all pretty familiar with it, but they have a pilot aboard in most cases who is familiar with it.

Mr. DiMAGGIO. He has to be, and most charts show the ferry route anyway. So our captains feel it is not really necessary for him to report under that location, radio reports. I think they do now.

Lieutenant Commander JOHNSON. I think the participation has been very good from the Staten Island ferries.

Mr. DiMAGGIO. Well, they are doing it, but some of them—some of them do not agree, because it is confusing when they report, especially in the fog. When they are navigating, they never stop, and it is quite difficult to monitor all the radios they have, the same as the tugboat.

Lieutenant Commander JOHNSON. If I could respond to that in particular.

I believe that when an active system is implemented, that requirements for these safety broadcasts will be substantially reduced because of the system, and I would hope that the vessel traffic system would recognize the ferry routes. And if it looked like there was a perpetual hazard encountered, they would let both parties know about it, but I think the fear is for a lot of reporting requirements for the ferries are—I do not think they are going to be borne out when the system is finally turned on.

Mr. BIAGGI. Mr. Heyward.

Mr. HEYWARD. I just want to comment that I think that would be true of any operation which runs a regular schedule on a regular route.

It might be treated somewhat differently from the other vessels in the system.

Lieutenant Commander JOHNSON. Yes, sir.

Mr. DiMAGGIO. Now, I would like to speak, since you brought it up, about the LNG and the fireboats, which is a big concern of ours also.

There is talk of cutting service, and 20 years ago there were 10 fireboats, and now there is 5. Since the most recent holocaust is the *Seawitch* and the *Esso Brussels*, in the newsclips that I have photo-stats of—I could not bring my files, of August 1973—it is a fact that all five fireboats were on the scene of the *Esso Brussels* and the *Seawitch* and the rest of New York was uncovered, the whole other area of the waterfront.

There are 578 miles of New York area waterfront, and 5 vessels were out fighting the *Seawitch* and the *Esso Brussels*.

First, the commissioner denied this in his first report in 1973, August. Then, in December of 1973, Chief August Beekman came out with a report that they were very much concerned of increasing and reevaluating the marine division and increasing coverage from five boats.

Now, the commissioner did an about-face and pointed out himself the holocaust between the *Seawitch*, wherein he said that all five of the department's fireboats were used for this blaze, leaving the rest of the waterfront unprotected.

The commissioner said that an up-to-date recall system is being implemented for boats previously retired.

Why, I am not certain that—I think there are members of the fire department here that will probably speak toward that. If anything, we have to increase the boats.

I was hopeful that—I think now—I am not up on it, that there was a Federal assistance program for public safety organizations or units such as fireboats.

I feel if these vessels, LNG, are coming in from Federal waters into New York Harbor waters, maybe the Federal Government could supply some assistance on implementing more fire vessels or implementing further firefighting tactics for an LNG vessel.

Now, I disagree with the Coast Guard on—that they say there was protection offered on a barge that is coming in and out, the barge *Massachusetts*. And I state that when the fireboat, *Firefighter*, was escorting this barge around the kills and around Staten Island, it was window dressing. It was just window dressing for the people of Staten Island to believe that they are well protected.

Here comes this LNG vessel in. We do not have to worry because look at this big red fireboat, he will protect us.

That fireboat can't do one thing. If that barge leaked, there is no protection that is known right now that can put out an LNG fire or explosion or anything.

The fire department itself only recently came out with a contingency plan, and what is it?—Spray water at the base of the leak and try to force it out to sea.

I would not want to be the guys on the fireboat that are spraying the water on the leak of the LNG vessel.

Now, MEBA has even implemented a course in their school in Baltimore because the Coast Guard is going to require that any engineer that works on an LNG ship that is coming out—very shortly, I do not know, maybe a month or two away—is going to be required to have a certificate of completion of an educational course. And I think it is a 144-hour course. It is a very lengthy and difficult course for the engineers on the ship.

I am going to propose, and I have in negotiations, that they should train the engineers and the pilots, the masters on the fireboats besides the firemen.

I am talking about the men that are operating the vessel.

When you tell the master just shoot the hose at the base of the vapor and force that vapor out to sea, and if his hull goes into that vapor, it will crack like an egg. The hull will crack and explode or hit the engine room or flame up.

And also when they do have this safety area, it is not enough. There have been many hearings. Councilman Gaeta has been holding them. The danger area is about 5 miles off when they go up the East River. Half of Queens could be wiped out.

So there is not really a good plan. Plus the ferry service and everything in the harbor shuts down. If the ferry is just about to leave the slip, and this LNG ship is coming in, and the safety area is such and such, half a mile or a mile, that ferry just stays there for an hour. He cannot move. And all the people from Staten Island just sit on it if they are already on it.

But there is probably a warning that such and such a time, we are going to shut down the harbor.

So there is no service for an hour. So there are a lot of problems.

Mr. BIAGGI. Well, you can see why they do that. They want to rid the waters of any possible difficulty with some ships. Somebody might be inconvenienced. It is equivalent to Mr. Sanders' concern about delay.

Mr. DiMAGGIO. There is no doubt in my mind that LNG is coming to New York even though there are organizations trying to stop it and oppose it.

I feel certain that it is coming.

The ships are being built, and they are going to enter this harbor. But, instead of eliminating fireboat service, we certainly should have more fireboats because the boats are the ones that are going to be concerned with anything that will happen to the LNG vessels, not the land companies.

Mr. BIAGGI. We share your view on that, Mr. DiMaggio. You know that. And I posed the question earlier on to Captain Perkins, who responded, and I will pose it again to you.

What do you foresee as a possible consequence of diminution or the elimination of the fire units?

Mr. DiMAGGIO. Just look at the *Seawitch* and the *Esso Brussels*. What could happen?

In the fire department's own statement, on that night, or a very few days later, there was a fire at pier 90, 50th Street, in the Hudson River, which went to four alarms.

The same night, a short time later, a pier at Hudson Street in the Hudson River went afire.

Both places required the services of all but one fireboat in the fleet.

Later that night, a pier at 200 Seventh Street in the Harlem River burned, and the services of a fireboat were urgently requested. The only boat available was *Marine 9* on Staten Island, and the estimated time of arrival would be 90 minutes.

We lost a boat in Whitestone not too long ago. It was a fireboat. They replaced it with a tender called the *Smoke*. There was a lot of screaming because there was a lot of marinas up there. It is opposite your side of the river in the Bronx.

Mr. BIAGGI. That is the mainland.

Mr. DiMAGGIO. Yes, the mainland on the—citizens came and spoke against eliminating their fireboats. It was a fireboat.

They put the tender *Smoke* there, no engineers, no masters. So the people saw a red boat and they said, well, we are still protected. They do not know that that boat did not have any pipes.

Now, it has been converted but, in those days, it didn't. They just keep eliminating boats, and, like you say, if a blaze comes, you let it burn to the waterline.

Mr. BIAGGI. Reduction of fire units could result in loss of lives and property?

Mr. DiMAGGIO. And how! Yes.

Mr. BIAGGI. Mr. Olney.

Mr. OLNEY. Mr. DiMaggio, at the beginning of your statement, you talked about the need for increasing tug assistance on tankers.

What size in terms of DWT were the *Esso Brussels* and the *Seawitch*, just approximately?

Mr. DiMAGGIO. I do not have it. I do not think I have it, no. They were large, I can say that.

Mr. OLNEY. As a general matter, when a tanker like this—

Mr. DiMAGGIO. Well, the tanker was anchored, the *Esso Brussels*.

Mr. OLNEY. So the *Seawitch* was moving?

Mr. DiMAGGIO. Right.

Mr. OLNEY. Presumably at some point as the vessel increases speed, the tug is no longer effective.

At what speed approximately do you think that occurs?

Mr. DiMAGGIO. Well, in the harbor, he cannot really hook it up full speed anyway. But you mean to control steerage?

Mr. OLNEY. Yes.

Mr. DiMAGGIO. I am not an expert. That would vary, to maintain the steerage way. How many revolutions and all that, I could not answer.

Mr. OLNEY. What I am getting at is whether the collision caused by the *Seawitch* was caused by excessive speed or whether it was caused by inability to maneuver.

Mr. DiMAGGIO. Well, there was talk that—I think the final investigation has not been completed, but it was a defect in the steering motor mechanism.

So, just to have tugs, when that steering motor mechanism went out if he still had tugs, he would not have hit the *Esso Brussels*, because they would have discovered the defect in the steering motor, and the tugs would have been able to maneuver him away.

As it was, they say that the steering motor hydraulic system rod was broken or something, defective.

Lieutenant Commander JOHNSON. Could I express another point of view?

I think in a system that suffers a mechanical failure, such as happened in the *Seawitch*, would cause you a hard over and the steering mechanism, you could very potentially have lost the tugboat, because if she was gaining way, why I do not think a tug would have had time to maneuver out of the way if she was alongside on the turning side of the vessel.

Mr. DiMAGGIO. But she would not have been gaining way with the tugs. She would have been maintaining the same speed with the tug alongside.

Lieutenant Commander JOHNSON. Well, this presupposes that the tug would have accompanied her at least to the narrows—

Mr. DiMAGGIO. That is what I am saying, yes.

Well, to the Verrazona Bridge where it would have been safe to let her off.

We say, in any event, they should not let go in front of the ferry slips.

Mr. BIAGGI. That is a question that is obviously being looked into.

Mr. DiMAGGIO. That is really our concern because of the captains on the ferry coming out or going in. Fortunately, it was not a ferry boat that they hit.

Mr. OLNEY. In the vicinity that you are talking about, near the ferry boats, the tankers are moving at a speed where a tug could safely assist them in maneuvering?

Mr. DiMAGGIO. As soon as they come out of the Kill Van—yes, I would say yes.

Mr. OLNEY. Now, the practice is to leave the tug as they exit them out of that channel and then to pick up speed?

Mr. DiMAGGIO. Yes.

Mr. OLNEY. Thank you.

Mr. BIAGGI. Thank you very much, Mr. DiMaggio.

Chief Thomas Rush, marine division of New York City Fire Department, representing Commissioner O'Hagan.  
Chief.

#### STATEMENT OF THOMAS RUSH, CHIEF, MARINE DIVISION, NEW YORK CITY FIRE DEPARTMENT

Mr. RUSH. Congressman, first I would like to read a prepared statement that was the feelings of the Fire Commissioner in this regard.

The New York City Fire Department maintains within its structure a line division which is officially termed the marine division.

Its primary mission is to provide fire protection and to conduct a fire prevention program throughout the waterfront areas and the waterfront and the waters of the city of New York.

It has also rendered assistance throughout the years to adjoining communities, particularly the many small communities in the State of New Jersey whose resources are somewhat limited and whose waterfront protection can best be described as nil.

The area served by the marine division is in excess of 500 miles. The marine division is composed, at present, of five marine companies, strategically located throughout the harbor.

As recently as 1964, there were nine marine companies.

The facilities of the Port of New York are unexcelled for the movement of cargo, passenger accommodations and service for ships needing repair. Its shorelines are also abundant with oil storage facilities, commercial and defense facilities, heliports, airports, tunnels, bridges, powerplants, and so many other ventures that find access to the water advantageous.

The waters of the city of New York have been the site of numerous disasters. Two of the most recent being the *Alva Cape/Texaco Massachusetts* collision in 1966, and the *Seawitch/Esso Brussels* collision in 1973.

Many lives were lost at both. But the fact that many more casualties did not occur was due, in large part, to the fireboats of the New York City Fire Department's marine division.

While the division has suffered from cuts due to budget problems previously, the most recent mandated adjustments will further adversely affect the services rendered by this unit.

The five fireboats now in service represent the bare minimum for effective protection. To maintain this level, and yet meet the fiscal mandates, it will be necessary to reduce the manning on four of these vessels, and to place a smaller vessel in service with an even more reduced manning schedule.

The fireboats have been an effective fire extinguishing weapon because of their ability to deliver large volumes of water to the scene of a fire, which is only possible with the manpower available at present. The reduced manning will necessitate the engaging of additional fireboats with the result that areas of the harbor will go unprotected.

The alternative of employing land units aboard fireboats will also be employed, but this has a disadvantage of depleting already overtaxed land forces and a delay in the response of the fireboats.

As to the use of a smaller boat, where a situation previously could be controlled with one boat will now require two, reducing the availability of vessels in an already marginally protected harbor.

Beyond the threat that a major disaster could bring to its citizenry, the importance of New York Harbor and its continuity of service to the city, State, and Nation cannot be overemphasized.

An adequately manned fleet of fireboats is a worthwhile investment in one of our most important commodities, the Port of New York.

I may add that, for the past 3 years, we have operated at fires and communities in New Jersey for a total of 153 hours and 30 minutes at a cost to the city of \$23,147.50.

Now, that concludes my statement, Mr. Congressman.

Mr. BIAGGI. That is the commissioner's statement?

Mr. RUSH. That is the commissioner's statement.



Mr. BIAGGI. What would happen if New York marine unit did not respond to the Jersey fires?

Mr. RUSH. I would say, Mr. Biaggi, they would continue to burn.

In 1971, the *Trade Deering*, that was a tanker that was tied up at one of the terminals in New Jersey. It took fire, they called for assistance, and the commissioner sent the fireboat down there.

Usually, when this happens, we send a fireboat, and they supply the forces.

When the fireboat arrived, the tanker that was involved had been cut from its moorings and let adrift. When the fireboat officer asked for assistance from the Jersey community he was refused, and he was told that since it was not tied up at our pier, it is not our problem, it is yours, with the result that I had to ask the commissioner for further—another fireboat and additionally take on land forces to go down, and with the assistance of the Coast Guard we were able to control the fire, but not with the assistance of the community that asked for our mutual aid assistance.

So I think this would give you an idea what happens in the waters of New York were it not for the New York City fireboats.

Mr. BIAGGI. You testified—Commissioner O'Hagan testified through you—that you have five fireboats and they represent a bare minimum?

Mr. RUSH. Yes.

Mr. BIAGGI. To be candid, it is less than a minimum required to provide the kind of service, because I recall when we had nine—

Mr. RUSH. 1964.

Mr. BIAGGI. I heard the same testimony.

Nine was a bare minimum. I would suggest it is an administrative nicety to deal with the harsh reality of life, and that five boats are hardly adequate to deal with the total picture in the waters insofar as your responsibility is concerned.

Mr. RUSH. I would agree.

Mr. BIAGGI. Now, in light of that, I would like your comment. I realize that it might be somewhat embarrassing; if you choose not to answer it, please do not, but I have every confidence in your professional integrity.

Mr. RUSH. Thank you.

Mr. BIAGGI. The contemplated cuts, reduction in force in the marine units, will obviously have to affect your effectiveness.

Mr. RUSH. That is correct.

Mr. BIAGGI. Would that result in a loss of property that might otherwise be saved?

Mr. RUSH. Yes, sir, it could.

Mr. BIAGGI. Could that result in a loss of lives that might otherwise be saved?

Mr. RUSH. By delayed response, it could, yes.

Mr. BIAGGI. What would your reaction be to the Coast Guard's assuming some of this responsibility?

Mr. RUSH. Well, I have every confidence in the Coast Guard, and I want to say that we work as a team wonderfully. We have almost a day-to-day liaison with the Coast Guard.

I think we have to be frank, and I think that they would be the first to admit that they do not have the resources to deal with a major fire in the city of New York's waters.

Mr. BIAGGI. I think they testified to that already.

Mr. RUSH. Yes.

A major fire, I would say, would be one similar to the *Esso Brussels* and the *Seawitch*, which we keep repeating.

It is true there were five marine units there. Fortunately, we have two reserve boats, and they were pressed into service to cover the balance of the harbor. This took several hours, because we had to call people from home to man the boats.

I also think it is true that perhaps one of the fire vessels at the *Seawitch-Brussels* might have been released. But the chief of the department at the time, now Commissioner O'Hagan, felt it was a good safety measure.

We had a terrible catastrophe on our hands. We faced the loss of the Verrazano Bridge.

Fortunately, the tide was on the way out. If it had been the other way, the vessels that were locked together would have drifted into the center of the harbor, and it might have threatened some land areas.

I think this is the Commissioner's, and it is certainly my greatest fear, that if we do not have the fireboats sufficiently manned to handle a situation like this, we are going to run into a situation where the land areas are going to be threatened by a collision in the Port of New York.

Mr. BIAGGI. I would like to concur. I know it is the commissioner's view.

Mr. RUSH. Yes.

Mr. BIAGGI. I chatted with him on a number of occasions, and he is a first-rate fire officer and administrator, and his prime concern is doing his job properly. But he has to be reinforced with equipment, and the fiscal crisis is working and that brings a hardship on his administration.

One last question as it relates to vessel traffic systems.

You have been on the water long enough. Are you familiar with the proposed vessel traffic system?

Mr. RUSH. I have heard there is one proposed, yes; proposed, yes.

Mr. BIAGGI. Do you have any personal familiarity with it sufficient to testify?

Mr. RUSH. I would say this, that any vessel traffic system that we can institute in the Port of New York that will aid us in the control of traffic and avoid collisions, such as we have seen in our harbor, would be well worthwhile.

I know now we have bridge-to-bridge, which is the channel 13. We have it on our fireboats, and I know that this has been a great aid in the control of traffic in that we know what other vessels are moving.

But I believe, if I understand it correctly, a traffic system, such as is proposed, would even further support the channel 13.

I, as a marine division chief, would certainly be in favor of it.

May I make a comment, sir, about the proposed LNG?

I recently testified before the Federal Power Commission concerning Ditrigas application to bring LNG into the harbor.

While the Ditrigas plant in Staten Island has been mothballed, I believe for several years, I think we all have to face the reality some day that it will come.

The commissioner took the position against the movement of the barge *Massachusetts* throughout the harbor. He felt that it was

running too big a risk to have 32,000 barrels of LNG moving through the harbor, a product about which we know at this moment very little.

This was his biggest concern.

I hope the committee will not take too lightly what Mr. DiMaggio said about the proposed plans for the fire department to combat LNG. What we know—from what we know at the moment, fog, spray nozzles is probably the most effective weapon we have at the moment, and that is the reason we went for a contingency plan which called for the use of fog nozzles. This is the only known weapon at the present time.

But when six barges were brought into the Newtown Creek area to the Brooklyn Union Gas, it was the commissioner's policy to escort them. They came in via the Long Island Sound, down into Newtown Creek. We escorted each one of them in and each one of them out.

Now, if the barge is permitted to come into the harbor—and I am sure the tankers will come into Rossville—I believe it will be the policy of the commissioner to escort each one of these.

Now, each escort in and out is going to take in the area of 3 or 4 hours. And we stood by at the plant of Brooklyn Union Gas until we thought everything was running normally before we left the area there. So, here, if this happens, this will be a further regular depletion of our forces, as each tanker is brought into the port, and if it happens as each barge is brought from Rossville to Newtown Creek or the Astoria area to the Con Edison plant, by the barge accompanied by a fireboat, this will take this boat out of service and will not be able to be used for any other fires which leaves four vessels in service.

And in niceties of Commissioner O'Hagan's statement—again, of course, this again is very marginal, if not below marginal—I think we plan our resources to combat two simultaneous fires.

Obviously, with five fireboats at work at a collision, the two remaining could not handle a similar collision.

If LNG does not come in, there is a proposal to bring LPG, which is an equally dangerous substance. In fact, they had an explosion over in Tokyo here recently, and the resources there, while their fireboats have maybe one-fifth the capacity of some of ours, they were not equal to the task, and the vessel was finally towed out and bombed and sunk.

We had a fire in Marcus Hook, Pa., recently, and I believe that while the Coast Guard took the position that it was better to let the vessel burn out rather than risk water pollution, we in the city, New York City Fire Department, we choose not to do that. We choose to combat the fires and put them out and avoid any possible danger to any other areas or vessels in the harbor.

So we have vessels that run in capacity from 5,000 to 20,000 gallons a minute. We feel that anything below 5,000 gallons a minute should not be classed as a fireboat.

Mr. BIAGGI. Thank you, chief.

Mr. HEYWARD. I want to ask you, in connection with the LNG problem, do you know at what temperature LNG vaporizes?

Do you happen to know?

Mr. RUSH. I did know, and I went to Washington, but I am sorry, I forget. I am sure there may be some experts in the Coast Guard—

Mr. HEYWARD. I want to ask you, chief, about the New Jersey side.

Do I understand that the New Jersey communities do not have any fireboats of any kind in the New York Harbor area?

Mr. RUSH. Newark had one at one time. It was called the *Kennedy*. Whether it is still in operation, I am not sure.

Mr. HEYWARD. Where is the dividing line between the State of New York and the State of New Jersey; Is it in the center of the Hudson, or is it on the New Jersey shore, or where?

Mr. RUSH. I believe it is over closer to the Jersey shore, but I am not sure. It runs down about the center of the Kill Van Kull, if you are familiar with that.

Mr. HEYWARD. Yes, in the Hudson.

Is it in the center of the Hudson?

Mr. RUSH. I am not sure at this point.

Mr. HEYWARD. Thank you.

Mr. OLNEY. No questions.

Mr. BIAGGI. Thank you very much, chief, and be sure to give my best to Commissioner O'Hagan.

Mr. RUSH. Yes, sir, I will.

Mr. BIAGGI. As Mr. Heyward stated at the outset, while I was not here, any person who feels he might like to make contribution to the hearing is perfectly free to come and testify and make a comment.

All he has to do is rise and sound off.

Captain Torrens?

Mr. TORRENS. This is just a slight addition to my former testimony that occurred to me while Mr. Sanders was speaking.

You asked what impact, financial impact, additional equipment would be, and I answered it would probably be none. That was based on two channel monitoring as I had already mentioned, because most equipment is built to only monitor the single channel that it happens to be working.

All vessels which are presently required to have bridge to bridge do have two channel capability because they have to monitor channels 13 and 16 and, therefore, it would follow that if the Coast Guard were able to take over the watch on channel 16, it would leave that channel free for a vessel traffic system.

So I wanted to clarify my testimony to that extent, that additional monitoring, and the word is "the monitoring" aspect is most burdensome. Most sets today do have capability, of 12 to 86 channels of sending.

Portable units, which the pilots have had difficulty procuring, may go up to five or seven channels sending, but they are only able to monitor one channel at a time.

So, therefore, the addition channel monitoring would be the burden.

Lieutenant Commander JOHNSON. May I add just a little bit of clarification about the economic impact of the monitoring and available channels, that there is two things about VHF, FM radio that are affected.

The first thing is the number of channels that have to be monitored simultaneously. That is the equivalent—if you must monitor three channels simultaneously—that is the equivalent of three receivers.

Now, the amount of channels available per transmission, one at a time, they vary from 1, 3 or up to 8 or 16. This proposition is, No. 1, if you have to monitor three, that costs more because you have

effectively three receivers. If you have to be able to shift to a number of channels, then this also adds to the cost of the unit in that more transmitting channels are required. So there is two things that affect the economics, the simultaneous monitoring of the channels, and the number of channels that are available to select to transmit on.

Mr. BIAGGI. We are mindful of that. We would be mindful of that, too.

Any questions?

Sir?

Will you identify yourself, please?

**STATEMENT OF KENNETH O. BLOM, GENERAL MANAGER, REINAUER TRANSPORTATION COS., ACCOMPANIED BY HAROLD A. REINAUER, PRESIDENT, REINAUER TRANSPORTATION COS.**

Mr. BLOM. I am Ken Blom from Reinauer Transportation Cos., in New York.

Mr. BIAGGI. You can come forward and sit here if you like.

Mr. BLOM. All right.

When you measure things in terms of the economic impact, one of the concerns that I have is that we have a fleet of tugs and barges in New York Harbor, and we run the whole gamut of sizes of tugboats.

Now, we run from 800 horsepower to 3,200 horsepower. It is very nice for these fellows to sit down and plot charts, and say, hey, you know you are an underpowered tow, you are this or that. They might not be saying this right now, but, sooner or later down the line, the Coast Guard is going to say, well, you are a low-powered vessel so, therefore, you are assigned to this lane, and further put that vessel in an uneconomic position.

We also have a 3,200 horsepower tugboat so, therefore, we would qualify to go into a high-powered lane as you traverse this harbor.

Now, it seems to me if this system is going to come into effect—I do not know where they are at right now, because I have heard so much talk about it—

Mr. BIAGGI. We will sort of get a response to your question in a minute.

Mr. BLOM. All right.

Well, there was a hearing one time, or I was at one of these meetings, and the guy was saying, well, look, you have got to stay to the right.

Well, I have bucked a lot of tides out of the Kill Van Kull. And I did them with junky crappy little boats, and we were making a living. And, you know, we did not mind that a catamaran came by us and drove us under with their weight. We did not care about ships. We did the job. But we also had the advantage that, well, if it was a Sunday morning, I could go duck under the Bayonne shore and do 2 knots there.

You did your work for the boss, and that is what it was.

Now, they are throwing out all these terms, such as the systems approach and hardware.

Well, I can be just as dumb as anybody else on the boat, and I look at the makeup of the crews. Now, the average crew you have today, they are all high school dropouts. OK. So am I. It does not bother me one bit.

However, these guys—

Mr. BIAGGI. How many vessels do you own?

Mr. BLOM. My company has—I think it is 6 tugs and 10 barges.

Mr. BIAGGI. That is not bad for a high school dropout.

Mr. BLOM. I do not own this thing. I just work there.

But the point I am trying to make is, you know, just like you cannot legislate love, you cannot legislate brains, and when you start talking about hardware, if you are talking about it to some of my guys, they think you are talking about hardware stores. They do not know about this system business.

I get Scientific American and I follow some of the advances in computer technology and all these fancy terms.

What I want to know is the leadtime. How long is it going to take to indoctrinate these fellows into the system?

They are talking about, I think, next year of starting these things.

You know, bureaucracy is bureaucracy. It is like a disease. It gets bigger and bigger and more cumbersome.

What are you going to do with the poor fellow that gets caught in the squeeze?

Mr. BIAGGI. Well, why do not we get some answers to some of your questions?

Mr. BLOM. OK.

Commander JOHNSON. Mr. Blom, I appreciate your fears about being relegated to a slow speed channel, or something like that. It would be nice if we had enough space in the channel system in New York Harbor to do something like that.

The reality of the thing is that there is not enough space, and there will not be in the foreseeable future. So everybody that now is in the harbor area is going to be there probably 10 years from now and they will be operating in probably the same manner.

We do not anticipate any special lanes for low-powered vessels or things of that nature. Everybody is going to have to learn to live together in the channel system under a centralized traffic management system.

And I think to answer about how the operators are going to absorb the new technology, I think the answer to that is that they are not going to have to. They are not going to be doing things much different than they are right now. Part of this, we recognize. We talk in terms of technology, and that is fine as far as it goes, but there is another half of this proposition that jumps up and grabs you, and that is the relationship to people and the application of commonsense, and the appreciation of exactly what the individual operator's problems in the harbor are. There are many of them.

We recognize this, and we have to do more to acquaint ourselves with what your problems are. That is one of the reasons why, in our training problem, we are addressing the possibility of our potential controllers getting out there and actually riding on the harbor craft and finding out first hand what the operator's problems are so that he really appreciates it when he gets back in his vessel traffic center and is faced with the task of actually managing the traffic.

So if we apply commonsense this way, if we apply people-to-people approach, so to speak, I think you will have a system that you will be able to use, and I think it will help you as well as any other users in the harbor.

Mr. BLOM. That is the first I have heard of it in terms of help.

Commander JOHNSON. That is what it is for.

Mr. BLOM. I am for avoiding collisions but not to the point that it is going to change the system as we have it. We have a workable system right now.

Commander JOHNSON. That is correct, and I addressed that in my presentation.

Mr. BLOM. But one more fact—

Mr. BIAGGI. Excuse me.

Mr. Blom, you say we have a workable system.

The record shows that we have a number of accidents that can be prevented by the implementation of some new technology, new systems, and there are spots out there that continue to remain very perilous even to the uneducated eye. It becomes quite apparent. The idea is to improve the safety of the harbor without causing any hardship to the industry. We are always mindful of the industry. At least I am, because I have a friend of mine out there who has been complaining to me about the Coast Guard ever since I have known him, my friend, Frank Barry of the Circle Line.

If we asked him for an opinion, I am sure he would give us a dozen. I chatted with him yesterday, and he runs a first-rate operation.

I have never lost sight of that fact, and I am sure the Coast Guard knows of my concern in that area.

But we do not—we do not compromise to the extent of endangering the prime objective.

Mr. BLOM. Well, sir, there is one other aspect here.

Is this system going to be an advisory system, because, you know these things grow, too?

This bit of control is—it is a little bit hairy. I have watched first-hand the collision between the *Alva Cape* and the *Texaco* and *Massachusetts* in which 39 guys died. And I spoke very strongly on behalf of bridge-to-bridge VHF radio, and I see it works. It clearly does.

It was a dumb stupid case of misunderstanding between people. But, now, where is it going to go 5 years from now?

When they go to implement the system, are there going to be things built in there so it remains an advisory system?

Piloting is an art. It is a subjective thing, you know, to the degree—

Mr. BIAGGI. Why do we not get a response from that query?

Commander JOHNSON. Yes, I would like to clarify what you mean by advisory.

Mr. BLOM. For instance, if I am on a boat now, OK, and I am coming up the Bay, are you going to tell me where to go?

Commander JOHNSON. I might tell you to slow down if you are going to meet somebody in a hazardous area where two vessels of your size and type should not meet, but I am not going to attempt to maneuver your vessel from my vessel traffic center. That is up to you.

Mr. BLOM. Well, I have not read this document, but is that built in there?

Commander JOHNSON. Yes, sir.

Mr. BLOM. You do not anticipate a change in it?

Commander JOHNSON. No, sir.

They would have to have a lot more information than is going to be available to us initially in the system when we turn on, to be able to maneuver a vessel from a shore facility. That is not our intention.

During my presentation, I made the analogy of the patrolman on the corner. You would get upset if he hopped in on the passenger side and told us what to do with the accelerator, brakes and steering wheel.

And I think that is what makes the mariner nervous.

No, we are not prepared to do that at this time because we simply do not have the information to do it.

I do not know that there is any need to do it.

Mr. BLOM. One of my other concerns—I will try to shut up in a minute—but one of my other concerns is we have a situation now in some god-awful place down in Louisiana called Berwick Bay, or something, where the Coast Guard is seeking to impose horsepower to length of tow, to tonnage ratios and so forth, what you can do and cannot do.

Now, this Nation was built on free trade and free navigation, and you get a regulatory body like yourselves come in here. Now, this is the first step. OK?

Pretty soon—what I am concerned about is we do not have Coast Guard inspection on our tugboats. Thank God.

Well, listen, we have a very good safety record with tugboats insofar as keeping them going.

Now, if we get to the point where you are going to start saying to me, hey, look, you cannot take this 20,000-barrel barge with that 800-horsepower tugboat. Where is this thing going to begin and end with their control?

That is the thing that makes me nervous.

Commander JOHNSON. Well, I do not know that I could even begin to give you any guarantees of a bottom line on control and regulation. That is certainly not within my power to do so.

But I think that in the majority of instances, when a rule or a particular regulation is instituted, there is a reason behind it, and usually the reason behind it, as far as the Coast Guard is concerned, at any rate, is damage to property, loss of life, environmental pollution. These are our three chief reasons for regulating anything.

And if that becomes necessary, now, I am sure we will do it, but if it is not necessary, I think our record is pretty clear that we sought to avoid it.

Mr. HEYWARD. In connection with that, I would just like to comment that whatever rules and regulations are proposed, there has to be a public hearing. And where the specific rules are objected to and objected to on reasonable grounds, at least theoretically they should not go into effect.

As far as Berwick Bay is concerned, they did issue regulations.

The fact of the matter is that there were a tremendous number of collisions with that bridge, putting the bridge out of operation, stopping traffic in the area, besides the loss of property and lives.

Mr. BLOM. Well, sir, I respectfully submit that that was overcome then by the installation of a traffic light, a go/no-go basis.

But, then, there was further consideration concerning horsepower to tonnage ratios or the amount of tow ratio—

Mr. HEYWARD. I am not too sure, but I think the Berwick Bay regulations also address low-powered tows, at least as to the number of barges that they are allowed to carry through that system.



Commandor JOHNSON. Yes, sir.

Mr. BLOM. One last shot.

I live in Staten Island. It is the world's biggest garbage dump.

Mr. BIAGGI. Do not let the paper hear you say that.

Mr. BLOM. What is that?

Mr. BIAGGI. The Staten Island Advance would not be happy about that.

Mr. BLOM. I do not read it anyway.

They wanted the bridge, too.

The point I am trying to make is a little bit more serious. It is the stinking LNG.

Who is going to protect us?

Even with this system here, you know, I am sure that the air traffic controller that was out at Kennedy last week when the 727 went in, you know he had active control. Everybody had control, and there are a lot of dead bodies there just the same.

Mr. BIAGGI. I am not so sure that that is true.

The pilot apparently that flew that 727 was aware of the conditions and exercised his discretion. Perhaps if he had listened—well, I would not say, at that point—perhaps if he had taken the controller's advice or followed the course of conduct that his preceding flight had taken, he might have avoided that. But who is to say?

That was obviously an unfortunate development.

Mr. BLOM. My last shot.

Mr. BIAGGI. That is what you said two shots ago.

Mr. BLOM. I know. I cannot talk at home so I get away with it here.

You know, this whole thing really hangs on one thing. I was thinking of it. It is a little glass cylinder with a metal tip on each end called a fuse.

And what is there—you know, what is not spelled out is what is inherent in this thing.

Now, a guy gets in the system and everybody is talking about systems, but his radios crap out. What is going to happen to this? Is this vessel now manifestly unseaworthy under the law?

What provision have you got for this and what protection is there to the company for liability?

If we are in your system now and you are controlling this, what amount of the liability are you taking?

Are you going to take liability?

Commander JOHNSON. Radio failure?

Mr. BLOM. For anything.

Commander JOHNSON. I would hope that we would have procedures built into the system to follow in case of equipment failures. That is a necessary part of every system.

By that, I do not mean we intend to shut down the whole port because somebody has a radio failure. That is part of the common sense about the system that I was talking about.

Mr. BLOM. Thank you.

Mr. BIAGGI. Thank you very much, Mr. Blom.

You were a refreshing contribution. You raised some interesting questions.

Did you raise your hand a moment ago?

Mr. REINAUER. I would just like the record to show, Mr. Biaggi, I am Mr. Harold Reinauer.

But I am here today as the vice chairman of region 5, American Waterway Operators, and I would just like the record to show that I support Mr. Robert Sanders.

Mr. BIAGGI. Fine.

If anyone else wants to be here recorded, please feel you are free to tell the reporter.

No other witnesses?

Sir?

### STATEMENT OF PAUL POSNER, NEW YORK CITY BUREAU OF THE BUDGET

Mr. POSNER. My name is Paul Posner with the New York City Bureau of the Budget.

I would like to address that one issue about the city's fireboats and the Coast Guard's responsibility.

Mr. BIAGGI. Sure.

Mr. POSNER. Some weeks ago, a letter was sent by the city, to the Secretary of Transportation, requesting that the Coast Guard assume a greater share of responsibility for fire protection in the port of New York. It certainly is the policy of the mayor and the budget bureau that we do not want to diminish the protection available to the port of New York for marine fires. Rather it is a question of the appropriate level of government that should deal with this problem.

The city presently has, as you know, an intense budgetary crisis, and as long as we are required to provide 100 percent of the funding for this service, I am afraid to say that the service will suffer as are most city services at the present time.

At the present time, the city is in the position where it cannot do everything that it wants to do. It cannot do everything that people want it to do.

So when you have a shrinking pie, so to speak, a shrinking base of resources, the question is you have to choose your priorities. And while we would like to satisfy everything and respond to all needs, as you know, the Mayor has been forced to make some rather painful choices.

The city's primary firefighting responsibility is to protect its residents and property from fires on land and, to the extent that they are threatened, on water as well.

Our recent budget crisis has forced us to cutback on personnel in both land-based and marine fire units. In view of these recent reductions in the level of fire protection available to our own citizens, we should now be relieved of the costs of providing fire protection for interstate commerce and for other cities and States—responsibilities which more properly rest with the Federal Government.

Federal reimbursement or takeover of the city's marine fire service for the port could save approximately \$5 million—money which we could allocate to rehire laid-off firemen and help restore fire protection to the city's own residents. I might note that \$5 million is the equivalent to the costs of 200 city firemen.

The problem of delivering fire protection to the port of New York is clearly an interstate problem for which the city, through an historical series of events, has assumed the sole responsibility.

And I think, at this point, the shrinking financial resources of the city have pointed out how unfair this division of responsibility is.

The city currently provides marine fire protection to the New Jersey waterfront without reimbursement. This is an issue that other cities have handled differently. For example, the city of Seattle is in the process of entering into a series of agreements with neighboring cities and with shipping companies doing business within their port, requiring reimbursement for their marine fire services.

Our city has been, for a long time, generously providing this service without charge to anyone except the taxpayers of the city of New York. Due to this fiscal inequity, the city has reviewed the issue and has promulgated some alternative approaches to seeking external financing.

One alternative would be to charge neighboring communities in the State of New Jersey. However, this would pose problems of coordinating fire protection and billing with each separate New Jersey town on the waterfront. Furthermore, the determination of fees is a sensitive and technically complex problem.

The other more logical solution for the entire port would be to secure Federal participation in providing marine fire protection.

Among the primary duties of the Coast Guard is the general legal responsibility to protect the safety of life and property on the waters subject to U.S. jurisdiction. We would argue that this responsibility extends to fire protection within our port.

Elsewhere throughout the country, the Coast Guard exercises exclusive responsibility for fire protection in the ports of Norfolk, Charleston, and Miami. This is according to our own research. Thus, we believe that the Coast Guard would be the most appropriate agency of Government to offer marine fire services in our port, due to its legal authority and interstate jurisdiction.

There is no reason why the level of protection should necessarily be diminished if the service is transferred to the Coast Guard. It is quite possible that arrangements could be worked out whereby the city's boats and equipment could be leased to the Coast Guard for this purpose.

But, really, once again, it is a question of not wanting to diminish the service but rather wanting to have the most appropriate level of government deliver the service.

Mr. BIAGGI. You said at the outset that you had made application to the Secretary of Transportation.

My understanding is that entreaty was rejected.

Mr. POSNER. I have not seen a letter of reply yet.

Mr. BIAGGI. Because I made some inquiry after I learned about it.

Mr. POSNER. Right.

Mr. BIAGGI. I think the same reasoning was offered by the Secretary there that the President offered when he rejected Mayor Beame's plea that New York City could not be distinguished by singular treatment. Most cities have problems.

However, I think this is a little bit different, a little bit of a problem.

If you were here, you would note that throughout the testimony and the questioning, there was a string of questions to develop a logical, perhaps possible jurisdiction of the Coast Guard in this area, at least some Federal Government responsibility. Whether it be the Coast Guard or not remains to be seen.

But there is a bistate or tristate responsibility—at least the bistate area responsibility where New York City has been providing the protection, inadequate protection at best. Although the people who work there are performing a yeoman's job, it is inadequate, simply because they have limited resources and equipment.

It is my judgment that the request is sound, the approach is logical, and there should be some relief forthcoming.

The Merchant Marine Committee has a bill, not yet subjected to the hearing process which calls for evaluation of the various needs of the ports throughout the country, and it might well be that we could work this concern of yours, this firefighting facet into those hearings, and perhaps arrive at a conclusion that might help the mayor's fiscal problems, and not diminish the firefighting units, and perhaps not even encroach upon current Coast Guard jurisdiction.

Captain, did you want to say something?

Captain PERKINS. Yes; I would just like to correct one statement.

The Coast Guard does not provide fire protection for any port in the United States. Just like in the Port of New York, we have many facilities, as I mentioned earlier, that has some firefighting capabilities. This is installed primarily for search and rescue operations wherever it is available.

We certainly wish to cooperate wherever there is a place for us to do something. The Coast Guard does not budget for, and does not build, or provide firefighting facilities in any port in this country.

Mr. POSNER. This was just—the information we got was from the fire chiefs of these various cities who reported that they do not budget for fire protection for their ports, but rather that they depend solely on the Coast Guard.

So the question is, the only agency that really has the legal responsibility in any—even if you say in a vague sense—is the Coast Guard. Just as with the Port of New York, the city of New York does not have the legal responsibility for fire safety throughout the Port of New York, certainly not in New Jersey.

Mr. BIAGGI. I would say in the light of history and tradition the city of New York now has assumed that responsibility. I think the courts will decree that. That is my judgment, but it is not a moot question. I think it is a vital question very much alive.

Just off the top of my head I do not know that the Coast Guard would be the avenue through which we approach it, but certainly there is responsibility of the Federal Government to participate. I think that is a logical conclusion.

There is a moral responsibility as well as a real responsibility to provide some fiscal assistance. I am sure if that were provided the Mayor would be happier unloading, if you will, that particular responsibility.

Mr. Heyward?

Mr. HEYWARD. Thank you, Mr. Chairman.

I was just going to comment in connection with two of the three cities that were mentioned, it is obvious that there are large Naval installations. In Charleston and Norfolk, much of the activity in those harbors is Navy, and perhaps those localities depend upon the very fact that the Navy has its own protective equipment, and therefore neither has an adequate marine fire fighting budget, hoping to be assisted, just as other communities are assisted by New York.

Mr. BIAGGI. Mr. DiMaggio?

Mr. DiMAGGIO. Just one comment in response to that.

I cannot see where you could take a fireboat and just say to the Coast Guard, here, operate this piece of sophisticated equipment. The pilots and engineers are firefighters first, then they promote to an engineer or pilot who are licensed by the Coast Guard.

I would like to see the city say here, operate this boat and go and fight the ALVA CAPE fire. It is outlandish to consider it.

Mr. BIAGGI. Well, if you understand the problem, you understand the city is desperately groping for alternatives, but the underlying issue is muddy. I come back to my original conclusion. I think the logical course to pursue is to pursue the Federal Government, and try to convince them that they do in fact have a fiscal obligation to assist in this area.

And you might report this. We do have proposed legislation that will be subjected to the hearing process which will evaluate the needs of the various ports throughout the country. I repeat that.

I am sure that firefighting will be one of those needs, and then the question becomes how much money can we get into it, and how will it trickle down to you. But at least there is an avenue.

Mr. POSNER. I would say that that would be the preferable approach, to be reimbursed for the service, to keep it within the city.

Mr. BIAGGI. Well, I am sure you are familiar with Government. It will not be next week, it will be a long, tedious process.

First we must get a notion accepted, and develop that whole concept, and pursue that hopefully to enactment. Until then I do not know that we will alleviate the city's problem in time to withdraw some of those pink slips. But in any event we are sympathetic, and we are aware, and we agree that there should be some monies coming in to support a service which is really bistate.

I would like to thank you for your contribution, and Commander Johnson, Captain Perkins, gentlemen, we appreciate your participation here today, and if you have any further contributions, we would appreciate it that you send it to us in Washington.

Any comments as we go on with the implementation of the process, as I am sure there will be some variance of opinion and differences, and it is our purpose, as I said at the outset, to develop a plan that is satisfactory to all, without imperiling the prime objective.

That being all, the meeting stands adjourned.

[Whereupon, at 3:35 p.m., the subcommittee adjourned, subject to the call of the Chair.]



## VESSEL TRAFFIC CONTROL

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MONDAY, JULY 7, 1975

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION OF  
THE COMMITTEE ON MERCHANT MARINE AND FISHERIES,  
*Philadelphia, Pa.*

The subcommittee met, pursuant to recess, at 1:05 p.m., in conference room B, 11th floor, 1421 Cherry Street, Federal Building, Philadelphia, Pa., Hon. Mario Biaggi, chairman, presiding.

Mr. BIAGGI. The meeting will be called to order.

This morning we had an overflight of the Delaware River and the Port of Philadelphia, on which I was accompanied by Congressman Josh Eilberg and Congressman Pierre du Pont. After many conferences and consultations in Washington in relation to the conditions in this area, we are pleased to be here to receive testimony from the Coast Guard and from any member of the marine industry or the public that desires to make a statement. All they have to do is indicate to the chair that they wish to speak to the committee and it will be done.

Before we get into the statement which I will read in a moment, I would like the people of this community to understand that the hearings today were the result of special and vigorous effort on the part of Congressman Josh Eilberg and Congressman Pierre du Pont, who have maintained sustained interest in the vessel safety features of the Delaware River, climaxed by the Queeny-Corinthos incident.

The results of their efforts and their concern for the people and property of the area is the prime reason why we are having hearings in Philadelphia today.

I am sure the people of Delaware and the people of Philadelphia will be mindful of their interest and contribution.

The Subcommittee on Coast Guard and Navigation is meeting this afternoon in Philadelphia for the second of a series of field visits and discussions related to the general problem of vessel safety in the various port areas and navigable waters of the United States.

At the beginning of the present Congress, it became apparent that the Subcommittee, in order to carry out its oversight responsibilities, should inspect in some detail as many aspects of Coast Guard operations as it could find possible to do.

One of the significant areas of operation involves Coast Guard responsibilities in the promotion of the safe movement of vessels in our navigable waters. The increasing volume of waterborne traffic in the United States, as well as the expanding numbers of hazardous cargoes which move in waterborne commerce, make it particularly important that vessel traffic movements should be so organized and

supervised as to guarantee as accident free a traffic system as it is reasonably possible to accomplish.

In early 1975, the Comptroller General submitted a report to the Congress which had been developed pursuant to the general auditing responsibilities of his office. That report was entitled "Vessel Traffic Systems—What Is Needed To Prevent and Reduce Vessel Accidents?" In view of the subcommittee's interest in this general subject matter, that report was particularly timely and its recommendations, together with the Department of Transportation comments on the report, serve to focus attention on the issue to be considered in evaluating the general problem area.

The subcommittee, therefore, decided to address the subject in a series of hearings which hopefully can be concluded before considering Coast Guard authorization hearings for the fiscal year 1977 budget.

On June 27, the first of the field visits was held in the New York Harbor area, and the problems peculiar to that area were discussed with the Coast Guard and various public witnesses.

This morning, the subcommittee members made a helicopter flight for the purpose of familiarizing themselves with the general outlay of the Delaware River and Philadelphia Port area.

This afternoon, we are meeting to receive a report from the Coast Guard and its local captain of the port, outlining specific problems of vessel traffic in this area, together with a discussion of existing and potential Coast Guard plans for solving those problems and improving safety in Delaware Bay, the Delaware River, and the inland port areas.

Following the Coast Guard presentation, the subcommittee will be happy to receive comments from any members of the audience who may be interested in furnishing any information or in expressing their views on the general subject of vessel traffic safety.

It would be particularly helpful if comments could be addressed to specific problem areas, such as the adequacy of aids to navigation, vessel movement reports, channel depths and configurations, means of communications, speed and size of vessels, vessel speeds and maneuverability controls, and the monitoring of vessel movements.

With that brief introduction, I recognize the Commander, Third Coast Guard District, Vice Adm. William F. Rea III for any comments that he may care to make, after which we will hear from Capt. Dudley C. Goodwin, U.S. Coast Guard, captain of the port, Philadelphia, but before I do that I would like to give my colleague, the ranking minority member of the committee, Congressman Pierre du Pont, of Delaware, an opportunity to make any remarks.

Mr. DU PONT. Thank you, Mr. Chairman and thank you for scheduling these hearings in the Delaware River region. We had a great many problems, especially along the Delaware River, all the way from Big Stone Beach where the tankers lighter off their view approximately from Delaware all the way to the city of Philadelphia where some of those lighter tankers arrive to discharge the rest of their cargo.

Mr. Eilberg has been concerned, as I have, with the safety problems in the river getting the best sort of a vessel traffic control system that we can establish for the Delaware River and I think our tour this morning and these hearings will be very helpful in doing that.



Mr. Chairman, I have a number of questions for the Coast Guard witnesses and I think that I will save those until they have completed their testimony.

Mr. BIAGGI. Congressman Josh Eilberg.

Mr. EILBERG. Thank you, Mr. Chairman.

Let me first thank the Coast Guard for their hospitality this morning, providing the helicopter trip over the lower Delaware and Delaware Bay.

I might say that visibility was very poor this morning so that we were not able to see as much as we would have liked. We had some difficulty with the intercom in the plane. I just wish that conditions had been better, although I must confess that the Coast Guard certainly did everything it could to make the morning profitable. Also their courtesy down at Gloucester City was very much appreciated where they briefed our staffs and provided us with some lunch and now we are ready to go.

Mr. Chairman, the problem of vessel traffic safety on the Delaware River has become a very serious matter. I might say, Mr. Chairman, some of my remarks may be very strong, but the reasons therefor will appear.

The problem of vessel traffic safety on the Delaware River has become a very serious matter because of the apparent lack of concern for this problem on the part of the Coast Guard and the Federal Department of Transportation.

Recently, the General Accounting Office—and I say “recently”—the report was submitted in January of this year—made a study of the Coast Guard’s implementation of the Ports and Waterways Safety Act, which was passed by Congress in 1972.

In its report, the GAO criticized the Coast Guard for its failure to provide better control of the movement of vessels carrying dangerous cargoes and it listed the Delaware River in the area of the Port of Philadelphia as one place which needed an improved vessel traffic system. Regrettably, the Coast Guard has not seen fit since 1972, subject to the last remarks which I suppose we will hear about this afternoon, to make any changes by the GAO which report is in my possession.

However, the Coast Guard has reported that Philadelphia is 12th in line for the establishment of such a system and that this means nothing will be done until the 1980’s.

Because of this situation, I recently met with Secretary of Transportation William Coleman and the Commandant of the Coast Guard who were kind enough to come to my office, but that discussion proved to be very frustrating at best.

The Secretary told me that although the suggestions I had made for improving safety in the port were under study and that some may be implemented, nothing would be done if it was going to cost too much money. I must say that I find this attitude intolerable.

I have spoken with the men who work on the river every day, including members of the Seafarers’ Union, Docking Masters and River Pilots. All had suggestions for safer operation of the vessels which use our port. Somehow, the Coast Guard officials in that area do not seem to hear our suggestions.

It is vital that at the very least, planning begin immediately for an improved VTS with an early implementation date rather than some nebulous time in the future.

A recent report in the Philadelphia Bulletin listed Philadelphia as one of the Nation's largest ports. Somehow the figures of the Coast Guard, however, are quite different. With the coming development of the huge oil and natural gas deposits on the Outer Continental Shelf off the east coast, we must expect that traffic on the Delaware will be substantially increased.

Most of this increase will be in the form of tankers carrying oil and gas and so the chances of fatal accidents will also increase. Unless something is done now, I do not see how the Coast Guard will be able to assure the people who work on the river or use it for recreation as well as the people of Philadelphia and the surrounding communities, that every possible action had been taken to guarantee their physical safety and the protection of the environment.

It is my hope that during this hearing, we will receive the assurances that adequate steps are being taken so that we will not have to order them through the legislative process.

I would say, Mr. Chairman, in conclusion, then, it may very well be that legislative steps will have to be taken because nothing has happened as far as I know with minor exceptions since this matter was raised by us.

Thank you, Mr. Chairman.

Mr. BIAGGI. Thank you, Mr. Eilberg.

It is my pleasure to welcome Admiral Rea of the Third District.

**STATEMENT OF VICE ADM. WILLIAM F. REA III, COMMANDER,  
THIRD COAST GUARD DISTRICT, GOVERNORS ISLAND, N.Y., AC-  
COMPANIED BY CAPT. DUDLEY C. GOODWIN, U.S. COAST GUARD,  
CAPTAIN OF THE PORT, PHILADELPHIA, PA.**

Admiral REA. Thank you, Mr. Chairman.

I am Vice Adm. William F. Rea III, Commander of the Third Coast Guard District and my headquarters is Governors Island, N.Y.

I am very pleased to be here with you and the members of your committee, with Congressman Eilberg and Congressman du Pont, to have our captain give you an overview and some of the efforts that we are making in the Philadelphia area.

This is your second visit, as you have indicated in your opening statement, to the Third Coast Guard District, you having held similar hearings in the Port of New York.

As you will see today, although in New York we are fairly well along with some vessel traffic system planning, the Delaware River in the Port of Philadelphia is in a somewhat different category and this will be touched on and dealt with in the statement; and I can deal with that later in the questions if necessary.

I think it would be sufficient to say that I am pleased to be here. I am very much available for questions and cooperation with your committee and particularly, Mr. Eilberg, to resolve the problems that apparently are unresolved in the Philadelphia-Delaware area.

At this time I would turn the mike over to Capt. Dudley C. Goodwin, the Captain of the Port of Philadelphia, who has a statement to make to your committee, sir.

Captain GOODWIN. Mr. Chairman, Congressman du Pont, Congressman Eilberg, there has been considerable interest demonstrated in the Philadelphia area in recent months with regard to safety problems in the port and as concerns our plans for improved traffic safety—especially with respect to the vessel traffic system program. Of course, these are the very things the committee is here to review.

I welcome the opportunity to discuss those subjects with you, and suspect that we will all benefit from constructive discussion of their various facets.

Since you recently conducted a similar review in the area comprising the Port of New York, perhaps it would be worthwhile to underscore some notable contrasts between our port and that of New York. For example;

(a) The area available for navigation of large vessels amounts to less than 15 percent of the total water area in New York. I would guess that ours is even less, certainly no greater;

(b) The Port of New York incorporates a large protected anchorage basin. Our port has six rather widely dispersed federally maintained anchorages, each of limited capacity, adjacent to the roughly 80 miles of federally maintained channel. Enclosure (1) depicts the locations of our anchorages; Enclosure (2) contains a summary of the anchorage characteristics;

(c) Whereas the Port of New York has deepwater piers only 9 miles from the open sea, our first facilities of consequence in this regard are located at Wilmington, 62 miles from the open sea. These piers continue, in varying densities, over an additional 47 or so miles;

(d) While there are six major entrances to the Port of New York, we have two; namely via Delaware Bay and Chesapeake Bay C. & D. Canal;

(e) Channel dimensions in the Port of New York range from 150 feet to 2,000 feet in bottom width while ours vary from 200 feet at Trenton to 1,000 feet at the lower end of the bay;

(f) Controlling depths in the Port of New York range from 12 feet through 45 feet, whereas ours vary from 12 feet to 40 feet;

(g) The network of channels serving the Port of New York accommodated 216 million short tons in 1973; our single, somewhat restricted channel handled 80 million tons.

Enclosure (3) contains a summary of vessel accidents investigated by our Marine Inspection personnel during the period January 1, 1967 through 1974.

Enclosure (4) recapitulates causes, location, and other factors, by year.

Enclosure (5) summarizes type casualties by location with regard to its channel characteristics.

Enclosure (6) outlines my position on "whether or not the introduction of additional vessel traffic system measures would improve safety associated with navigation of the Delaware River." Copies of that position were previously mailed to you. I hope you received them.

In the interest of brevity, I will only quote in part and in essence from that paper. For record purposes, I have annotated enclosure (6) to indicate the portions I will draw from; using a checkmark to designate the appropriate paragraphs.

I have no doubts that additional vessel traffic system measures would improve safety associated with navigation of the Delaware

Admiral REA. Captain Smith.

Mr. BIAGGI. Is the captain here?

Is he prepared to testify before this committee at this point as to the basis of his charges as to what they are?

Admiral REA. Mr. Chairman, Captain Smith did not come prepared for that. He really, in order to testify, ought to have the records before him.

I think, if you would permit, we would get these records and the accurate information into the record as quickly as possible as to the status.

Mr. BIAGGI. Let me pursue that, Admiral.

I would like to ask Captain Smith, where are the records?

Captain SMITH. They are in my office.

Mr. BIAGGI. How far is your office from here?

Captain SMITH. Second and Chestnut Streets.

Mr. BIAGGI. Timewise?

Captain SMITH. Probably half an hour.

Mr. BIAGGI. I think we will be underway for more than half an hour.

Admiral Rea, may I suggest that the captain be permitted to go fetch the records?

Admiral REA. Yes.

Mr. DU PONT. Would the gentleman yield?

Mr. BIAGGI. Yes.

Mr. DU PONT. Before you go charging off to get the records, Captain, let me raise a question of due process about the advisability at a public hearing, when airing charges against an individual, making them public before the individual has been served and I am concerned with that both from the point of view of the individual but also from the point of view that if you do that, it may be that whatever prosecution or legal action you take may ultimately be voided because his rights will be violated right in this hearing this afternoon and I would think we ought to have an opinion from someone more competent than I whether that is an advisable step.

Admiral REA. I am without counsel at the moment but I think our counsel—or counsel, minority counsel, may support this. My intention was to furnish and what I was proposing and perhaps it was in terms, just for the record, just a status and if the charges have not been preferred, I think it would be premature because the man himself has not been advised what the charges are.

Mr. EILBERG. Admiral Rea, a few minutes ago you said that you had arrived at no conclusions with regard to the accident and that is the thrust of my question.

I am not—certainly not interested in violating the rights of anyone, but apparently you have arrived at certain thoughts as to how this accident occurred and this is the thrust of my question.

I would like to know what evidence, what kinds of evidence were involved.

Admiral REA. Mr. Eilberg, first I was not on the board of investigation. I am not up to date on it but the action or the proposed action proceeding against a person's license is based on when this occurred, it's based on evidence of either negligence, misconduct or incompetence on the part of the person. This does not necessarily say then—dictate the conclusion that this is the cause of the casualty.

And I run down, Mr. Chairman, through 20 cases there that I could go into if you would like me to, but for time purposes, you may want to study that later.

Mr. BIAGGI. They all seem to have something in common, that VTS might have or would have—

Captain GOODWIN. Might or should have.

Mr. BIAGGI. Or should have?

Captain GOODWIN. Yes, sir.

And I concluded that—there, by saying that of the foregoing 20 cases under consideration, in order to justify VTS, I feel in only 11 cases could VTS have been considered necessary with regard to preventing or possibly preventing the particular casualty. I have marked those with an asterisk. The remainder should have been prevented through adherence to existing regulations or rules of prudent seamanship.

Finally, if we consider the 20 cases by themselves, without discounting the nine which presumably would have occurred even with VTS, it becomes evident that we averaged 2.5 accidents per year from January 1, 1967 through 1974, or call it 3.

It is interesting to note that the GAO, inferring that we do not presently have a basic VTS, estimates that such a system would result in three fewer accidents annually.

In reviewing the information contained in that paper, I have come to one conclusion: that regulations by themselves are of little use without a means of surveillance for purposes of enforcement, particularly during periods of reduced visibility when they are most sorely needed. Radar in particular is an essential adjunct to any effective vessel traffic system.

Consequently, I cannot as far as the Bay and River Delaware is concerned, consider the GAO report on vessel traffic systems, which calls for basic systems consisting of regulations, traffic separation schemes, or a communications network, including vessel movement reporting procedures, to have validity.

We have the basic system here already, in the form of regulations, traffic separation, and the Maritime Exchange's vessel movement reporting system. If we want to improve our safety record, a means to conduct surveillance will be required. Based on the Port of Philadelphia's safety, I do not feel that the necessary electronic system; namely, radar, is justified at this time.

The priority established by the commandant for installation in this port is not inconsistent with the priority implied in the GAO report, wherein the Delaware River and Bay is ranked after San Francisco, Puget Sound, Houston-Galveston, New York, New Orleans, five separate and distinct segments of the intercoastal waterway through Louisiana and Texas, and the Chesapeake Bay.

While the foregoing position is derived by considering specific casualties, I have noted some general figures that are also noteworthy that I have received from the Philadelphia Maritime Exchange, and they indicate the vessel traffic in terms of numbers at the end of December, from 1967 through 1974, have varied from 6,393 in 1967 to 4,815 in 1974.

While they move up and down a little bit, there has been a consistent decline.

The net registered tonnage is not available for 1967 and 1968, but from 1969 through 1974, it increased from about 42½ million tons to 53 million tons.

And from the Coast Guard records, our accident rate from 1967 to 1974 has varied from 19 in 1967 to 16 in 1974, and that again has moved up and down a bit.

I suppose an individual can interpret the foregoing figures any way he pleases. My interpretation is that since 1967 there has been a gradual decline in both numbers of vessels entering the port area and the number of casualties, while at the same time, there has been a gradual increase in vessel tonnage. Consequently, I suspect larger vessels are using the port.

The Coast Guard has determined that the United States—that the U.S. ships of more than 30,000 deadweight tons have 66 percent more casualties than smaller ships. If this is valid, then we can reasonably expect an increase in accidents in our port with the arrival of increasing numbers of vessels such as the *Notre Dame Victory* at 37,785 tons, the *Athos* at 48,000 tons, the *Spectra J* at 34,000 tons, and the *Corinthos* at 30,700 tons, unless we take effective steps to provide for a modern deepwater port in an effort to keep larger vessels out of the immediate and somewhat restricted port area.

Elaborating on my comments relative to the increased chance of casualties with vessels over 30,000 tons, it is pertinent to note that in the Port of Philadelphia the trend in this regard, of late, has been—in March 1975, we had 54 vessels enter the port over 30,000 tons; April, 58, May, 93, and June, 85.

Once having established the need for a vessel traffic safety system, it becomes a matter of determining what we want, need and can afford. We have two working groups in the Port of Philadelphia that will undoubtedly provide valuable inputs in this regard.

First, under the auspices of the Joint Executive Committee for the improvement and development of the Philadelphia Port area, we have a VTS working group, chaired by Capt. Paul Ives, and secretary of the American Pilots Association.

The function of this group, generally stated, is to evaluate and make recommendations to improve safety associated with navigation in the Delaware Bay and River. Beyond noting that I am an ex officio member of that group, I will defer to Captain Ives for further comment concerning the subject and related matters.

Second, we have the Mariners' Advisory Committee for the Bay and River Delaware, chaired by Capt. Sam Schellenger, again of the Pilots' Association for the Bay and River Delaware. Once more, beyond noting that I am an ex officio member of that group, I will defer to Captain Schellenger for further comment concerning its functions and effectiveness.

At such time as the Coast Guard finds it expedient to establish a Delaware River and Bay Traffic System Advisory Committee, I suspect that committee will be guided to a large extent by the findings, opinions, and recommendations of those two bodies. In furtherance of that purpose, I intend to furnish to them copies of the annual report from the New York Harbor Vessel Traffic System Advisory Committee, to be used as a guide in approaching the general subject.

With respect to "when will a vessel traffic system for the Port of Philadelphia be operational," I can only note that in 1973, the Coast Guard completed a study of 22 ports and waterways to determine the needs of those areas for vessel traffic systems.

This study included a case-by-case review of all collisions, rammings, and groundings for a 4-year period to determine the estimated percentage reduction in these types of casualties that would result by having had various levels of vessel traffic systems.

Analyses of casualties in Delaware River and Bay revealed that a vessel traffic system would not have had a significant effect in preventing these casualties. There appeared no need to go beyond the increased use of bridge-to-bridge telephone, a concept which has been employed in the Delaware since the early 1960's. This long successful experience in the Delaware contributed to the national adoption of bridge-to-bridge radiotelephone and may help explain why the area did not rank higher in need of a system.

Using newly developed techniques, data collection efforts resumed in the Delaware River and Bay area in October 1974. Side looking airborne radar, SLAR, was used to determine vessel traffic densities and flow patterns.

In March of this year, a data collection radar van was used to collect radio communication data and additional information on vessel traffic densities and flow patterns.

Analysis of these data and other currently known factors will identify whether or not a vessel traffic system is needed, and if one is needed, the degree of complexity of such a system.

New factors, such as the projected start-up of facilities handling cargoes of particular hazard, will be introduced into the data bank at such time as their implementation becomes reasonably firm.

It should be recognized that Delaware River and Bay has been included in the Coast Guard's long-range budget outlook. If the need for a system is identified, it is anticipated that moneys will be requested in the 1980 budget, which means an operational system might be a reality in 1981-82, depending on the system's complexity.

In conclusion, and I did not include it in this particular statement, I would like to also note as I tried to point out this morning that the subject of port safety is a broad one. It includes not only requirements for traffic regulations and maintenance of an aids-to-navigation system of a base and navigation but also it requires consideration of how cargoes, particularly by dangerous cargoes are handled aboard ship and at the facilities.

It includes a review of how the facilities are maintained and how ships are constructed and maintained; how well crews are trained. To emphasize any one of these aspects at the expense of another would likely not serve to effectively improve our overall mission, accomplishment in port safety.

Increased performance can only come about with increased personnel resources and equipment. If you are willing to concede that, by and large our personnel are fully and effectively employed at the present, not only here in Philadelphia but generally throughout the Coast Guard—and I feel they are—I feel it would be—I feel on our part it would be the height of complacency to say that we are presently doing all that needs to be done; we are not. But given adequate resources, I believe we can.

Mr. Chairman, that concludes my statement. I would be happy to attempt to answer any questions you may have at this time.

Mr. BIAGGI. I want to thank you very much, Captain Goodwin, Admiral Rea, for your complete cooperation in these hearings in providing the data and also your hospitality.

At this point, I will defer my questioning and relinquish my time to Congressman Eilberg.

Mr. EILBERG. Thank you, Mr. Chairman. Thank you, Admiral Rea and Captain Goodwin.

Captain Goodwin, I have no doubt of your sincerity and your seeing the job as you see it, but we seem to have differences of opinion. That is the purpose of this hearing and hopefully to take some steps to provide more safety for the Delaware and the people who live in the Delaware and work on the Delaware and to provide you with what additional facilities, if any, you may need.

Now, you went to great length, Captain Goodwin, to analyze figures of accidents and I am not going to comment on those except to say that figures can be used any way you want to use them and in contradiction to the thrust of that statement, I would like to say that I have been told by members of the Seafarers Union that there is every day an accident on the Delaware River or Delaware Bay.

By that I mean a ramming or grounding or collision and this information is given to me, so I suppose it is a matter of definition as to what is an accident.

Nevertheless, the union people involved who work on the river in the bay tell us that there is an accident every day.

Now a principal point that concerns me is the *Queeny* and *Corinthos* incident of January 31 of this year. You might say that I am a new member on this committee because I have felt the necessity of having a port watcher from Philadelphia, looking at the Delaware and the safety and development of the Delaware and no sooner do I become a member of this committee then this very serious accident occurs with the loss of a great many lives. That accident was on January 31, 1975, as I understand it.

Can you tell me what conclusions, if any, you have arrived at as to the causes of that accident?

Vice Admiral REA. Would it be all right, Mr. Eilberg, if I answer that one?

Mr. EILBERG. Yes. Yes, sir.

Vice Admiral REA. The data, that was subject to an investigation by the Coast Guard, Marine Board of Investigation and eventually and overview by the National Transportation Safety Board. The report has not been completed.

It would be premature to say what conclusions, because the report has not been completed. When the report becomes public, certainly we will be sure that you and the committee becomes well aware of it. But it is an incomplete investigation.

Mr. EILBERG. It is 5 months later, Admiral Rea, and you have no comment to make as to the causes of that accident?

Vice Admiral REA. The Board of Investigation has not completed their work and it just would be premature, Mr. Eilberg, until it goes down approved by the Commandant and then the National Transportation Safety Board makes the final determination as to the



cause of the casualty. I regret that they are not out sooner. The history of these boards, this procedure has been very time consuming.

Mr. EILBERG. Since the accident, is it true that you have required locally that tugs of company vessels into the channel or out of the channel into docks?

Captain GOODWIN. It is true that I gave it considerable thought. I put it out as a proposed regulation and quite frankly, based in large part on prodding from your office.

I later changed it from a proposed regulation to an advisory, because of the economic impact that such a requirement would have on this port if it was not a general requirement in other ports of the country.

Mr. EILBERG. What does advisory mean now?

Captain GOODWIN. It is a recommendation.

Mr. EILBERG. You mean vessels are free or companies are free to use a tug or not, is that what you are saying?

Captain GOODWIN. Yes, sir.

Mr. EILBERG. So that you have withdrawn that temporary regulation which you have ordered?

Captain GOODWIN. I have withdrawn it as a regulation and reissued it as an advisory, yes, sir.

Mr. EILBERG. Now, do you contemplate any time within the near future bringing any charges against any individuals for their conduct in connection with the accident?

Captain GOODWIN. I would like to pass this to Admiral Rea because that is not in my bailiwick. This is bureaucracy in action, I suppose, but there is an interface between my office and Marine Inspection and that is in the Marine Inspection's area of responsibility.

Mr. BIAGGI. I might suggest that you feel free to move that microphone to each other and—whoever is desirous of answering the question please feel free to do so.

Admiral REA. Excuse me. My apologies. Behind me is Capt. Wayne Smith, the officer in charge of Marine Inspection.

When you're reached a stage in investigation that there is evidence of negligence or misconduct or incompetence, when these are turned over to his office for handling and I just consult with him to just determine where they stood and charges have been preferred; I should say they are being drawn up but have not been preferred as yet.

These will be charges probably made of negligence or incompetence.

We can furnish you exactly for the record what the status of this is, but that action does not have to await the approval of the Board of Investigation.

Mr. EILBERG. When there is evidence, then we should proceed with it. An investigation under article 4450 looking into action against a person's license or whether he should return his license or not should be gone into.

Can you give us the basis of those charges? Are they in the stage of being prepared?

Admiral REA. I do not have them. I can have the captain testify. I think the simplest thing is we can produce them as quickly as we possibly can for the record.

Mr. BIAGGI. If the gentleman would yield and if I understood the response correctly, the charges are in fact prepared but have not been served. What was the captain's name again?

The cause of the casualty is the total picture and it may or may not have been in the alleged evidence of misconduct or negligence on the part of some individual.

In a board of investigation, there are procedures when the board is proceeding, when they reach a point in their deliberations in gathering information and the facts, and they reach a conclusion that there is evidence of negligence on the part of one or more persons then that action is initiated looking toward further investigation against their license or document. It is a separate procedure, a separate operation and one does not necessarily lead to the conclusion that that man's negligence was the cause of the casualty per se, it might have been some other cause but even so you might proceed against his license.

Mr. EILBERG. Admiral Rea, I would like to suggest to you the legal possibility under the Freedom Information Act, we may very well have the right, the public may have the right to see the document that I have referred to.

Do I understand you take the position now that you will not allow these to be explained or brought forward at this hearing, is that your position, Admiral?

Admiral REA. My position now would be to seek advice from our counsel as to the propriety of releasing, prior to the person being charged being served and I would like to do that.

Mr. EILBERG. How soon do you expect that the charges will be preferred, Admiral Rea?

Admiral REA. I do not know whether Captain Smith is going to answer that. I would defer to him if he could answer it. I do not know whether he can.

Mr. EILBERG. Captain Smith?

Captain SMITH. I would estimate within a month.

Mr. EILBERG. All right, thank you.

Admiral, or Captain Goodwin, since my submission of proposed—a proposed VTS—

Mr. BIAGGI. Excuse me, would you yield?

In light of the question raised by Congressman du Pont, after consultation at the table with Mr. Heyward, the need for Captain Smith to go get his records has been obviated. Rather than air the whole question of due process, we will wait and have you submit the information on the changes later.

Mr. EILBERG. Since my submission of a number of suggestions for proposed vessel traffic system in the Delaware River Bay, have any of these been adopted?

Captain Goodwin, you have been supplied with a list of regulations, proposed regulations which you have very carefully read. They were delivered by my district office administrator and you replied at length, highly critical of most of them.

I would like to hear from you now as to whether you have adopted or looked with favor on any of the suggestions? Certainly you have your letter, document in front of you.

Captain GOODWIN. Yes, I do.

I am trying to pick out some areas that I can comment on.

Of course you recommended a basic, as our vessel traffic system and I believe in quoting from my letter here, I indicated that the basic VTS is defined by GAO, as one that includes regulations, traffic

separation schemes or communications network including VTS reporting procedures.

I note that we have all these elements to the degree which I feel is required in the Delaware area. We have them as to the entrance of the bay, we have regulations in terms of rules of the road, regulations governing the handling of hazardous materials, regulations governing anchorage—we have the VTS managed by the Federal Maritime Exchange, with a cooperation of the Pilots Association.

Finally, we have a bridge-to-bridge communications network using 10 or 13 to facilitate the coordination of vessels in transit to and from facilities.

I would think that quite honestly the only recommendation that you made, Mr. Congressman, that I felt might be worth a try at this time, in addition to what we already have is the proposal for tugs and I was convinced in my own mind that that would be economically unfair to the port and also giving it further consideration, the mere presence of tugs is not going to in my mind really preclude accidents.

We had the *Spectra J.*, one of our large ships, moving from an anchorage assisted by three tugs here not too long ago, and he hit two ships trying to get into Arco. I suppose to answer your question, I am going to have to say that no, I have not implemented any regulations.

Mr. EILBERG. And you do not believe that any of them have any merit in terms of alleviating any potential vessel accidents?

Captain GOODWIN. I think the vessel traffic system in the port as I mentioned earlier, no doubt would serve to prevent some accidents. But again our requirements have to be put in perspective by the commandant as he gets a lump sum of money from the Congress and how he wants to divide it up. He has a bigger picture certainly than I do and I think that our requirements here in the Port of Philadelphia apparently are on down the line a ways.

Mr. EILBERG. Mr. Chairman, I ask permission at this point to place in the record a list of my recommendations for the record and for the consideration of all of the members of the subcommittee.

Mr. BIAGGI. Without objection.

[Document above-referred to follows:]

#### RECOMMENDATIONS OF HON. JOSHUA EILBERG ON PROPOSED VESSEL TRAFFIC SAFETY SYSTEM FOR THE PORT OF PHILADELPHIA AND THE DELAWARE RIVER

##### PREFACE

There is a pressing need for the adoption of regulations pertaining to vessel traffic throughout the ports of the Nation, and the time for action is now. However, I have a primary concern with the port of Philadelphia and the safety of my constituents and their property.

The General Accounting Office report on vessel traffic safety reveals that there have been recommendations by the Coast Guard for a two-plan vessel traffic system:

1. A basic vessel traffic system.
2. A sophisticated vessel traffic system.

The basic traffic system appears to be the ideal system in that it is effective through the enforcement of existing regulations and the implementing of updated regulations, coupled with the use of present equipment; that is, radio and telephone communications (cost factor being held at a minimum).

The sophisticated system appears to be inadequate in that the end results are not sufficiently effective considering the cost factor. The system involves the use of closed circuit TV and radar. We must consider the cost of the equipment, installation, maintenance, and operating personnel. The limited effectiveness will not compensate for the high cost to the taxpayer.

Through personal observation, as well as interviews with knowledgeable individuals that have navigated the Delaware River waterways, it is my conclusion that a basic traffic system could be adopted at a minimal cost which would result in a marked decrease in merchant vessel traffic accidents.

#### *Radar and communications center*

The installation of a radar and radio communications center within the Delaware Bay area to observe and regulate vessel traffic preparing to enter the river channel. This will also control the flow of outgoing traffic. It will be manned by Coast Guard personnel, so material procurement and maintenance costs will be the only new major expenses.

#### *Visual towers*

The installation of a network of visual towers to operate in conjunction with the radar and communications center, to be manned by existing Coast Guard personnel, along the route of the river at suitable sites on the Pennsylvania and New Jersey shores, with facilities for tower-to-tower telephone communications and tower-to-ship radio communications. Every outward bound or inward bound ship would come under the control of each tower as it progresses along the river route. The towers could relay to the ships messages of hazardous conditions and other ship traffic information, such as orders to lay to, where to pick up tug assistance, and anchorage information in event of emergencies.

#### *Speed limitations*

Require all vessels to maintain a safe operating speed of between 6 and 10 knots, depending on existing traffic conditions and maneuverability of the vessel. Vessel speeds can also be controlled by tower personnel. If a ship is unmaneuverable at low speeds, tug assistance would be required.

Speed limits should be set and enforced for vessels transiting restricted navigational waters. Transit speeds during hours of darkness should be slower than daytime speeds. Enforcing speed limits could present a difficult problem; but unless it is accomplished, the posting of speed limits will be of no value.

#### *Special details*

Require all vessels entering and leaving the Port of Philadelphia to maintain a special anchor detail, as well as additional engineering personnel on throttle watch and boiler room watch in the event that this is not now the practice.

#### *Tug control—In*

Require all merchant vessels, oilers, tankers, cargo ships, and so forth, to obtain tug control prior to leaving channel for a docking area.

#### *Tug control—Out*

Require all merchant vessels to obtain tug control prior to departing from dock. The tug will be responsible for bringing ship to midchannel and placing ship on its proper heading prior to release.

#### *Escorts*

It will be the responsibility of the Coast Guard to supply escort craft to all ships carrying dangerous cargo. These escort craft would use visual and audio signals, as necessary, in the escorting of these ships up and down the river.

#### *Ship movement*

The Coast Guard will assume the responsibility for restricting the movement of all ships—inbound and outbound of the port of Philadelphia—when poor visibility and other hazardous conditions exist.

#### *Inspections*

Upon completion of the docking of a ship bearing dangerous cargo, it will be the responsibility of the Coast Guard to inspect the mooring lines for proper mooring techniques, as well as requiring the command officer of the vessel to secure proper electrical grounding of said ship, if necessary.

#### *Vessel identification*

When approaching congested harbor/river entrances where numerous ships are entering, departing, embarking, and debarking pilots, it is extremely difficult to identify vessels which may meet or cross your track. Listening to the bridge-to-bridge conversations among ships and harbor pilots provides a wealth of information regarding these ships' immediate and intended movements. Un-

fortunately, unless the specific ships can be visually/electronically identified, the movement information is useless and, in fact, confusing. There is a definite need for providing an unmistakable means for identification.

Verbal description given by each master/pilot of his ship's significant identification characteristics. This is to be provided during the "call up" and "acknowledgment" while conversing with each other or with the pilot.

#### *Anchorage*

It is necessary for the expansion of existing anchorages such as Marcus Hook and Mantua Creek and the establishment of additional anchorages along the river route, especially in the upper regions.

#### *Improvement in navigation aids*

a. *Targets for visual bearings.*—The use of visual bearings to fixed beacons, towers, et cetera, is extremely valuable in fixing the ship's position in those areas where there are no easily identifiable topographic characteristics. The effectiveness of these navigational aids is diminished by the difficulty in locating them and their similarity in construction hindering positive identification. Examples of these aids in the lower reaches of the Delaware Bay are the towers at:

(1) Egg Island—New Jersey side of Miah Maul Range.

(2) Ben Davis Point, Dunks Point, and Arnold Point—New Jersey side of Liston Range.

(3) Similar towers installed on the Delaware side of the channel.

b. *Lighted ranges which are difficult to use.*—There are several lighted ranges which are extremely difficult to identify or use. They are (commencing with the area in the vicinity of Artificial Island, proceeding toward Philadelphia):

(1) Liston Range—extremely difficult to pick up visually while proceeding in an outbound direction prior to entering the Range. This condition makes an accurate turn on to Liston Range very difficult. The Range lights and light towers are not easily distinguishable until actually on the Range (which is astern).

(2) Bulkhead Range (in the vicinity of Pea Patch Island)—is difficult to see while proceeding in either direction.

c. *Navigational aids in the lower reaches of the Bay.*—In general, difficulty is experienced in accurately fixing the ship's position in the area of Brandywine/Crossledge Ranges and south. Visual bearings on topographical features are almost nonexistent and there are too few stationary charted objects to provide a sufficient number of visual and/or radar bearings. Though the bay is quite wide at this point, the width of safe water in several locations is limited. Traffic encountered in this area is usually moderate; hence, accurate navigation is a must.

d. The increasing of the amount of channel markers the entire length of the Delaware River, where needed, especially at the lower end in the bay area.

e. Installation of range markers for headings in the areas where only astern readings are available.

#### *Channel changes*

Suggest that mid-channel at Billingsport range and where Cherry Island and Bellvue ranges intersect be relocated. At present, ships must run too close to fuel piers at Billingsport Range. In the event of a human error or a mechanical failure, this could cause an extremely dangerous and hazardous situation.

The intersection of the Bellvue and the Cherry Island ranges (south of Chester, Pa.) is extremely close to the western shore of the river. It presents extreme difficulty to ships transiting through the intersection in either direction. It demands precise judgment and timeliness to turn onto either range while proceeding at any speed.

#### SUMMARY

At the present time, it appears that the only communications system available to relay any ship movement information is in the very capable hands of the Pilots Association in conjunction with the Philadelphia Maritime Exchange. It must be noted that these dedicated people are performing an outstanding service.

This is accomplished through the service of a pilots boat, supplied by the Pilots Association, which remains on duty 24 hours a day, 7 days a week.

Since the Coast Guard has jurisdiction in enforcing the regulations of their respective ports, I feel that it is the Coast Guards' responsibility to assume the duties of vessel communications with the ships entering and leaving the port of Philadelphia.

However, since pilot-to-pilot, via bridge-to-bridge communication is invaluable in nature, therefore, the radar and communications center should have personnel from the Pilots Association assigned to work in conjunction with the Coast Guard. If this system were to be established, it would not necessitate the presence of the pilots boat. Transfer boats for the pilots could be tied up at the radar and communications center.

Strict discipline should be exercised in using the bridge-to-bridge circuit. Unnecessary conversations clutter the circuit and could prevent the transmission of vital navigational information. It is advisable that the Coast Guard monitor these communications to enforce discipline.

In addition to the proposals regulating vessel movement, "no passing" zones should be considered at various locations along the channel. Typical areas to be designated as "no passing" zones, as an example, could be:

1. Channel legs where the distance between turning points is limited—possibly 6,000 yards or less.
2. Intersections where two or more channels meet.
3. Areas of the channel adjacent to "busy waterfronts" such as: refinery piers, cargo loading/off loading piers, ferry crossings, and so forth.

Questions arise regarding a speed limit, since our deep draft ships must pass the upper regions of the Marcus Hook Range during high tide. Dangerous rock formation reduces the channel depth during low tide. This would cause undue delay in that deep draft ships would be required to wait approximately 12 hours for the next high tide.

It is therefore, recommended that dredging operations continue at this point to alleviate this situation.

By no means should these proposals be considered as exclusive to the port of Philadelphia; but to the contrary, should be evaluated for their adoption and implementation at other ports, depending on that local area's needs.

Sound judgment should be exercised in recommending and establishing vessel traffic systems. Basic vessel traffic systems, minimal in cost, should be established as opposed to any high-cost sophisticated system when it is indicated that this system would operate just as efficiently.

Mr. BIAGGI. Would the gentleman yield?

Mr. EILBERG. Yes.

Mr. BIAGGI. Admiral Rea?

Admiral REA. Mr. Chairman, Mr. Eilberg, for the record I would like to say that at the district level, third district level, we will take another look at these and see if there is any possibility that we should have different viewpoints on this.

In other words, I would just like to say we will give further consideration.

Mr. EILBERG. I really appreciate that, Admiral, very much, because it seems to me Captain Goodwin has indicated a fixed mind about the subject and the recommendations that we have made, none of them were presented as my conclusions, my creation, or the creation of my district office assistants, but rather were the consensus of the views of many, many people who work for the Seafarers Union, work with the members of the Seafarers Union—men who operate tugs, masters on tugs, people who are active members of the United States Navy, this is a consensus of views presented by any number of people which Captain Goodwin casually discards and I therefore welcome your suggestion very much.

Mr. Chairman, since the accident involving the *Queeny* and the *Corinthos*, has the Coast Guard adopted any regulations pertaining VTS that would prevent a recurrence or tend to prevent a recurrence of that type of accident?

Admiral REA. Mr. Eilberg, Captain Goodwin may want to respond to this a little more, but the circumstances as I know the casualty you are talking about where the vessel was coming across the river, and my information is primarily from the news media because I

was not on that board of investigation, but I am not aware of any steps that we could take to prevent that. It certainly does not fall in the pattern that the vessel traffic system would cope with. A vessel proceeding from one side of the river to the other and would not quite turn—would not quite turn the vessel in the dock—

Mr. EILBERG. Admiral Rea, if I may interrupt.

It has been advanced to me by members of the seafaring community, that if the tug had been attached to the *Corinthos* into the center of the channel, the accident would not have occurred. Would you care to comment on that?

Admiral REA. No, sir, I do not, because this again is in the very facts of the Board investigation trying to turn up and again it would be premature, even if I had the information to speculate, but I do not have it at hand.

Mr. EILBERG. Would you care to comment on the suggestion that has been made that if there had been someone on anchor watch on the *Corinthos* when an order was given to release the anchor, if there had been an anchor watch, that that accident may not have occurred? Would you care to comment on that?

Admiral REA. I do not think I could at this time, sir.

Mr. EILBERG. I do not think you could. All right. Now, Admiral, this is probably related to you.

Thursday, May 15, an article appeared in the Philadelphia Evening Bulletin that indicated that the Philadelphia Port led in tonnage last year.

I might say, Mr. Chairman, that this appears in a newspaper article, copy of which I have, dated Thursday, May 15, 1975, in the Philadelphia Evening Bulletin.

The Philadelphia Port led the world in tonnage last year. Reading a small part of this article by Rem Rieder: "The 1974 total for international shipping in Philadelphia was 80,842,875 tons, a record high. Included were 73,871,950 tons in imports and 6,970,925 tons in exports. New York City finished second with 71,827,951 tons, trailed by Hampton Roads, Virginia, with 56,697,133 tons, and Baltimore with 41,808,443 tons."

Do you agree or disagree with that article?

Vice Admiral REA. I have no comment. Each port, as you go around the country, makes different claims, uses a different basis. Some ports say we are first with volume or international trade or other things. I am in no position to challenge that one way or the other, sir.

Mr. EILBERG. The article also goes on to say—and perhaps I should say that the reporter got the information from the Delaware River Port Authority.

Would that change your reaction in any way?

Vice Admiral REA. No; I would say I have no comment. I would accept the figures but as far as—I have no reason to question them, but I do not have any basis to say they are good, bad or otherwise.

Mr. BIAGGI. Will the gentleman yield?

Mr. EILBERG. Yes.

Mr. BIAGGI. Just to clarify in my mind, for the record, what that article seems to indicate is that the Port of Philadelphia exceeded tonnage, the traffic in the Port of New York in toto. I think—at least that is the impression I get.

Mr. EILBERG. Do you want to see the article? I will make it a part of the record.

Mr. BIAGGI. Yes, you can do that, without objection.  
[The document referred to follows:]

[From The Evening Bulletin, May 15, 1975]

### PHILADELPHIA PORT LED THE WORLD IN TONNAGE LAST YEAR

(By Rem Rieder of The Bulletin staff)

The Flyers were not Philadelphia's only champions last year.

The Port of Philadelphia also earned a No. 1 ranking.

Final statistics released by the Delaware River Port Authority show that in 1974, Philadelphia was the nation's most active international port, judged by total tonnage of exports and imports.

#### FIRST SINCE '64

It was the first time since 1964 that the local port had surpassed New York City in international trade.

However, like Roger Maris' home-run record, Philadelphia's ranking includes an asterisk.

When domestic trade is included, New York is still No. 1.

In addition, Philadelphia continues to lag far behind New York in the most lucrative type of shipping—general cargo. General cargo includes goods which must be loaded and unloaded by human labor and generates about \$26 a ton for the local economy.

Philadelphia's supremacy is based on bulk cargoes—commodities like oil, iron ore and grain—which generate between \$6 and \$8 a ton.

Much of the recent effort to upgrade the local port, which stretches from Trenton to Wilmington on both sides of the Delaware River and is called Ameriport, has centered on increasing general cargo shipments.

But last year, local general cargo dropped by about 500,000 tons. At the same time, bulk shipping in Philadelphia rose by two million tons.

The dollar loss in the general cargo category was roughly equal to the gain in bulk cargo, meaning the port's financial impact on the Philadelphia area was about the same as in 1973.

With the economy in a general state of decline, port officials were pleased by the port's performance.

#### "GOOD SHOWING"

"Considering the state of the economy, it's a very good showing," said port authority spokesman William Lynch.

The 1974 total for international shipping in Philadelphia was 80,842,875 tons, a record high. Included were 73,871,950 tons in imports and 6,970,925 tons in exports.

New York City finished second with 71,827,951 tons, trailed by Hampton Roads, Va., with 56,697,133 tons and Baltimore with 41,808,443 tons.

#### SLIGHT RISE

Philadelphia's share of the four-port pie rose slightly over 1973, while New York City dropped 5 percent, Hampton Roads gained 4 percent and Baltimore 3 percent.

Port officials said increases in imports of petroleum products, iron ore and iron and steel products helped Philadelphia earn its top ranking.

Both imports and exports of machinery were up sharply.

The sag in general cargo was due largely due to a drop in lumber imports, reflecting stagnation in the housing industry, port officials said.

Exports of iron and steel scrap products also declined.

Mr. BIAGGI. What I think it says is that Philadelphia did have more international tonnage than New York.

Mr. EILBERG. That is what I said, Mr. Chairman. I—1974 total for international shipping in Philadelphia. You are quite right in your statement.



Mr. BIAGGI. Because I think the Port of New York must have three or four times as much total tonnage.

Mr. EILBERG. If I did not read the word "international" shipping, I certainly meant to and that is part of it now.

Mr. BIAGGI. Would the gentleman yield for another question?

It is a question that I wanted to put to the Admiral before when we were talking about the Queeny-Corinthos.

You testified that even if we had a VTS system in this port, it would not have prevented that accident.

Vice Admiral REA. As I know it, Mr. Chairman, from newspaper accounts. I have tried to conceive afterwards what kind of traffic system would you conceive to prevent that. But it does not come out.

But I think probably my remarks need to be qualified that we need to wait to see what the Board comes up with. Rather than accept—so I have to qualify my response in that regard.

Mr. BIAGGI. Because of the unique nature of that accident?

Vice Admiral REA. Well, the vessel traffic systems that we are designing or trying to develop the flow of traffic, in meeting and passing situations, low visibility, I do not know of any that play—the particular vessel turnaround with no other traffic in sight and not quite make much of a turn—

Mr. BIAGGI. Thank you.

Mr. EILBERG. Mr. Chairman, I hold in my hand a letter received from the Commandant of the Coast Guard, Commandant Admiral Siler, dated March 24, 1975.

He says that for the year 1974, the total vessel tonnage in Philadelphia was 52,193,000, whereas the figure on the Delaware River Port Authority is 80,842,000.

Now, do you have any explanation of the disparity between those figures?

Vice Admiral REA. Mr. Eilberg, I do not. Perhaps Captain Goodwin might. I do not. It is a matter that I will look into if there seems to be a disparity.

Captain GOODWIN. I had a copy, but unfortunately I did not bring it with me, of that same letter. I read it over pretty carefully. I cannot explain the disparity, no, sir; but I certainly do not see anything in the Commandant's letter that I would disagree with.

Mr. EILBERG. Well, the Commandant uses the figures 52,193,000 tons as tonnage. If the fact that it is greater than that—would that alter your opinion as to the necessity of the vessel traffic system?

Captain GOODWIN. Here again, Congressman, we get all screwed up on these tonnage figures. It depends on what you are talking about or what the Commandant was talking about. We are the number two port in the country in terms of importation of petroleum products. I understand we are number one in terms of international trade, and number four overall. When you juggle these figures around, I would have to take a look at it a little more in depth before I could comment any further on it.

Mr. EILBERG. Mr. Chairman, I would like to make the newspaper article a part of the record if I might.

Mr. BIAGGI. All right.

Mr. EILBERG. Mr. Chairman, on page 21 of the GAO report, under the conclusions, the first paragraph and the second paragraph, recommendation to the Secretary of Transportation.

We recommend that the Secretary of Transportation require the Coast Guard to give national emphasis and direction to establishing regulations as authorized by the 1972 Act to control vessel traffic.

These actions should include more extensive use of speed limits; greater regulation over the movement of vessels carrying dangerous, combustible, and polluting cargoes; and limitations on the size of tows. The Department advised us that it was undertaking a high-level review of the vessel traffic program because of the issues raised by our review.

Now, have you heard anything about this review or the conclusions of the review, Admiral Rea?

Admiral REA. I think the review is made but I would like to suggest, sir, that in response to that, any comments you may want to get on that, the Commandant's Coast Guard Headquarters had made the review and I would not be conversant with them at all as far as being able to testify or explain what they might be.

I think when you develop your record at the Washington level, this would be very appropriate to get into the record at that time.

Mr. EILBERG. As it is you have received no direction from the Secretary of Transportation as to any such review; is that correct?

Admiral REA. We have not, sir, because I assume—or I am rather sure that the review was made in Washington; so we have not.

Captain GOODWIN. If I could refer back, Mr. Chairman, I have the answer to the Congressman Eilberg's question. I believe, concerning the tonnage figures, you will note that those are contained on page 5 of the Commandant's letter. They are the identical tonnages that I had on page 12 of my statement and those figures were obtained from the Philadelphia Maritime Exchange. They are net registered tonnage excluding barges.

Mr. EILBERG. Recent information that I have is that the Penndel Corp. has been commissioned to conduct a study for deep-water ports in the Delaware Bay area. Obviously, if a port such as this were to be established, would a vessel transportation system be established in the Port of Philadelphia?

We have a deep-water port system; do you see any need for a vessel traffic system?

Admiral REA. I cannot make a direct response to that, Mr. Eilberg. It says the national level is made sort of priority where there was a need. I think Philadelphia is on the list; it is just not on a very high priority. So there has been a determination made that some point in time they would be here; but there are other ports which are of a higher priority and more necessity to get on with it.

Mr. EILBERG. Admiral Rea, do you have an explanation as to why in the GAO report they keep putting Delaware River and the Bay in a relatively high priority?

Look at the GAO report, page 10—that they refer to necessity of Delaware River Bay? And there are also various references to the viability of the Delaware River Bay?

You just disagreed with the GAO report, I take it. Is that what you are saying?

Admiral REA. It is not a matter of me or Captain Goodwin. This is a national decision. This was not done at the local level. Again, I think this would be a matter that you would take up with Admiral Siler's staff.

Mr. EILBERG. This report says that it is the function of the captain to make recommendations.

Captain Goodwin, have you made any recommendations regarding—that might lead to a vessel traffic system?

Captain GOODWIN. No, sir. Not as of this date.

Mr. EILBERG. The report also says that sophisticated traffic, vessel traffic systems, should be abandoned and that the basic system should be installed first in the ports indicated in the report.

Do you agree or disagree with that proposition?

Admiral REA. I think Captain Goodwin spoke to that as far as here in New York. It was clear when we had the record over there. Our own view is that that would not be sufficient in the Port of New York. The Commandant again I think has addressed himself to this, and may I suggest that this would be his view; but certainly in the Port of New York, clearly the Advisory Committee support is that you cannot stop with the basic system that GAO talked about; the basic system just being a vessel movement reporting system and no surveillance and that in New York they did not think this was necessary in a couple of areas and it was the New York advisers and our New York staff and ourselves that would agree with that proposition.

But again I think the Commandant of the Coast Guard and his staff that could give you insight as far as his comments on the national level when you take it up down there, sir.

Mr. EILBERG. Admiral, I think it would serve the committee's interest if you would make the distinction between the basic system and sophisticated system, and also note that one of the important components of the basic system is bridge-to-bridge, which is mandatory throughout the Nation.

Admiral REA. For the GAO maintenance distinction, that a basic system was a—is the better reporting movement system; that is, you just get on the radio and you say, I am at point A, B or C. There would be no surveillance with low-light TV; no surveillance with radar and to quote the sophisticated system would be any system which uses this extra equipment. This is the distinction we made. We do not think you could sort it out that way, certainly as far as New York; you could stop at the basic system. In fact, our industry people there would not support that particular viewpoint.

If they were going to get into it, they needed surveillance to get in with it. So you not only had radio communications but you needed the radar—now, the bridge-to-bridge radio, which was pioneered right here in the Delaware River, they have the bridge-to-bridge radio for some years on a voluntary basis, has been and is a very, very effective arrangement and it is being used by all vessels, basic vessels, foreign and domestic over a certain size coming in the port.

I believe the passing we saw this morning probably, if we could have heard the vessels talking, we would have heard them talking about it.

Mr. EILBERG. Mr. Chairman, following the *Queeny-Corinthos*, incident and statements that this Member made in Washington, there was a regular van established at the end of the bay, Tsubic Bay to make a survey as to the needs for vessel traffic systems.

Admiral Rea, do you know the date that that van was there?

Admiral RAE. No; but—unless Mr. Whittum has it. But we can produce it for the record. We are moving ahead and trying to collect data, so when Philadelphia—

Mr. EILBERG. Approximately how long was the van there?

Admiral REA. Lieutenant Whittum?

Lieutenant WHITTUM. Each site was 1 week long.

Admiral REA. Lieutenant Whittum's response was 1 week. That is 24 hours a day.

Mr. EILBERG. The van was there 7 days?

Lieutenant WHITTUM. Yes, sir.

Admiral REA. Yes. The answer is "Yes."

Mr. EILBERG. What were the dates?

Admiral REA. I could furnish them. I do not have them at hand, but I could furnish them.

Mr. EILBERG. Have you studied the results of what you have found?

Admiral REA. I have not. I have not gotten a report from our staff yet.

Captain Goodwin tells me that the information is at headquarters and they are being looked over down there. I have no direct information on them. This is one of the steps as you go along, the elementary steps that once has been made, to accumulate as much data about the traffic patterns so then you can make the decision of what kind of equipment you need, eventually whether you want a fancy radar or TV; just what you need.

But in order to reach those determinations, you have to start collecting data. We have done that in the other ports and moved the van over here and started to do some of that over here.

Mr. EILBERG. That was back in March, approximately, that you had the van there?

Lieutenant WHITTUM. Yes, sir.

Mr. EILBERG. And that is about 4 months and you have no conclusions or no impression of what that van discovered?

Admiral REA. I have none myself; no.

Mr. EILBERG. Do you, Captain Goodwin, have any idea what the van's findings were?

Captain GOODWIN. No, sir; none whatsoever.

We called headquarters and they are analyzing it. Again, I do not think—I think this takes some study.

Mr. EILBERG. Do you have any idea when the study may be concluded?

Captain GOODWIN. I am under the impression, if I recall correctly, it will be along about October.

Mr. EILBERG. You are aware that the Waterway Safety Act was enacted in 1972; are you not?

Captain GOODWIN. Yes, sir.

Mr. EILBERG. Now, Captain Goodwin, among other recommendations that I made was the need for additional channel markers and other additional aids such as range lights and so forth.

Have you considered these at all and has there been anything done to place additional markers?

Captain GOODWIN. No, sir.

Of course, as you are aware, we responded to this in a letter to Mr. Duld. I can run through my comments relative to the proposed aid system if you would like me to.

Mr. EILBERG. Would you summarize it at this point?

Captain GOODWIN. I will try.

They wanted, as I recall, he wanted an improvement for the existing system of age navigation in the immediate area of Cape Henlopen and I noticed there was a radio beacon down there with a light on the south end of the Harbor of Refuge breakwater of such candlepower as to be visible 23 miles in the white sector and 20 in the red.

Additionally, I noted that the sea lanes approaching the entrance are well marked, and that the bottom contours lend themselves well to assisting a navigator through prudent use of a fathometer, and that the adequacy of the existing system in that area probably explained why there had only been two significant vessel casualties in the area over the period January 1, 1967, through December of 1974.

I noted that both those casualties were collisions. One in 300-yard visibility and close to an aid to navigation; and the other was in clear weather with both vessels having a pilot aboard.

Mr. EILBERG. Mr. Chairman, will the gentleman yield for a moment, please?

I do not think that the committee is getting much sense out of that statement. I wonder if we could make that letter a part of the record?

Mr. BIAGGI. Without objection, it is submitted for the record.

[The material follows:]

DEPARTMENT OF TRANSPORTATION,  
U.S. COAST GUARD,

*Philadelphia USCG Base, Gloucester City, N.J., April 28, 1975.*

Mr. CHARLES DULD,  
216 1931 Cottman Avenue,  
Philadelphia, Pa.

DEAR MR. DULD: I am writing with reference to the Proposed Vessel Traffic Safety System for the Port of Philadelphia and the Delaware River, as published by Representative Eilberg, and the charts annotated to indicate proposed changes in the aids to navigation system as established in the Delaware Bay and River. Both the charts and the VTS proposal were left in my office by you after our meeting last month; you desired my comments relative to each.

Starting with the charts, and proceeding from the entrance to the bay on up stream, the following comments are noted:

a. There has heretofore been no need indicated for improvement of the existing system of aids in the immediate area of Cape Henlopen. I note there is a radio beacon at Cape Henlopen itself, with a light on the south end of the Harbor of Refuge Breakwater of such candlepower as to be visible 23 miles in the white sector and 20 miles in the red sectors; accompanied by a fog signal. Additionally, the sea lanes approaching the entrance are well marked, and bottom contours lend themselves well to assisting the navigator through prudent use of the fathometer. The adequacy of the existing system probably explains why there have only been two significant vessel casualties in that area over the period 1 January 1967 through December 1974. Both of those casualties were collisions, one in 300 yard visibility and close to an aid to navigation; the other was in clear weather, both vessels having pilots on board. The presence of a Vessel Traffic System (VTS) might have prevented either of them; similarly, so might prudent seamanship. I doubt that additional aids to navigation would have helped.

b. As you are aware, the Coast Guard has plans to establish a VTS for Delaware Bay and River. The Cape Henlopen/Cape May areas are being evaluated in that respect.

c. I have found no record of vessel casualties during the period 1 January 1967 through December 1974 in the four mile stretch between South Shoal Lump Buoy 6 and Delaware Bay Main Channel Lighted Bell Buoy 9; therefore, I fail to see the need for additional buoys in that area. Also, it is noteworthy that there has been no need for additional aids indicated at our meetings of the Mariner's Advisory Committee for the Bay and River Delaware. Either I or one of my officers regularly attend those meetings. The committee is comprised of members of the Pilots Association, Norton, Lilly & Co., Inc., National Bulk Carriers, Inc., Mobil Oil Co., and Swann Oil Co. Additionally, representation is usually provided by the Philadelphia Maritime Exchange, the Joint Executive Committee

for the Improvement and Development of the Philadelphia Port Area, the Corps of Engineers, and the Burlington Bristol Bridge Commission.

d. I realize we have in excess of two miles between markers on the Delaware side of the Brandywine Range segment of the main channel. However, I fail to see where there is an indicated need for additional aids. Since January 1967 there have been two groundings on that side of that portion of the channel—both in the immediate vicinity of Delaware Bay Main Channel Lighted Bell Buoy 9. There have been two groundings on the east side—one well out of the channel.

e. Although we have a record of three groundings in 8 years on Miah Maull and Cross Ledge Ranges (one within a mile of Elbow of Cross Ledge Light, on the east side, and two in the immediate area of Delaware Bay Main Channel Lighted Bell Buoy 32), I can find no record of casualties on Liston Range. Consequently in the absence of justification to the contrary, I again fail to see where there is an indicated need for additional aids on that stretch of the channel.

f. You note that we have only one set of ranges marking the approximately 1.6 mile leg of Baker Range, and suggest a possible location for a complementary range for down bound vessels. In eight years we have had one recorded grounding in this area, and that was in the immediate vicinity of Reedy Island Range Lighted Bell Buoy 2R. The grounding involved an up-bound vessel in good visibility. It does not appear that an additional set of ranges is required.

g. We are presently considering the Reedy Point area (entrance to the C and D Canal) as a possible site for a VTS installation.

h. In a period of 8 years we have had 6 groundings on the New Castle Range segment of the channel. One occurred in the immediate vicinity of New Castle Range Lighted Bell Buoy 1N/Buoy 2N—on the New Jersey side of the channel; two occurred between Chesapeake and Delaware Canal Junction Lighted Bell Buoy, and New Castle Range Lighted Bell Buoy 5N on the Delaware side; another in the immediate vicinity of Bulkhead Bar Range Lighted Bell Buoy 2B; and the final two in the proximate area of the intersection of New Castle Range with Bulkhead Bar Range, on the outside of the bend. Consequently, I see little to indicate a need for a lower range supplementing the upper range.

i. In reviewing Coast Guard records over the 8 year period 1 January 1967 through 1974, I find no record of collisions (vessel vs vessel), groundings or ramming (vessel vs fixed object/moored vessel) in the area adjacent to Pea Patch Island; thus I see no need to sacrifice a portion of Anchorage 5, even if the Corps of Engineers had funds available to relocate the channel, for a questionable purpose.

j. There have been no groundings and only two collisions, in the 8 year period of my survey, on Deepwater Point Range. The two collisions (1968 and 1970) occurred between Deepwater Point Range Lighted Buoys 1D and 2D. I fail to see where an additional set of range structures (at the lower end of the range) are justified.

k. A range light may be weak due to a dirty lense or faulty power supply; however, because it appears weak occasionally, (you mentioned *one* complaint apparently entailing *one* incident) we should not automatically assume increased candlepower is needed. I have had no complaints other than yours to the effect that Deepwater Point Range Rear Light is inadequate. If it becomes apparent that there is a demonstrated need for increased candlepower, I will make an appropriate recommendation to our aids to navigation people at Governors Island.

l. I do not understand your notation with respect to Cherry Island Range Front and Rear Lights, and Bellevue Range Front and Rear Lights. Specifically, I do not understand how their location makes it difficult for ships to make the turn. We have an unlighted buoy (Cherry Island Range Buoy 9C) guarding the shoal on the Delaware side, on the outside of the turn, and there is Bellevue Range Lighted Buoy 2B just opposite the intersection of the ranges and guarding Cherry Island Flats. Additionally, the pilot/master can depart either range early due to the fact that the area to the New Jersey side of their intersection has been widened beyond the general 800 foot project width; there is no need to run to the intersection of the ranges. Of course any movement of the ranges would necessarily mean they would no longer mark the channel center line—a customary function of most ranges.

m. As a side light, I note you have designated the "Scene of Fatal Collision" at the wrong site.

n. I can find no record of any groundings on the Little Tinicum Range segment of the channel—over the period 1 January 1967 through 1974. We have had two

collisions and two rammings on that stretch in that period. One collision occurred in fog, near Little Tinicum Island Range Buoy 4T with both ships communicating with each other and near or at mid-channel; the second collision occurred when a vessel had a steering casualty and hit (rammed) a vessel at the Mobil Oil facility. The two rammings occurred when vessels were docking; one was blown onto a pier, the other suffered a power loss and struck a pier. I do not see where there is a demonstrated need for your proposed second set of range structures.

*o.* Your suggestion that the channel be widened and/or relocated to "mid stream" is noted. Along Billingsport Range we have experienced one collision and two rammings in 8 years. The one collision occurred when a vessel hit a barge at the Mobil Oil facility, having experienced engine failure while undocking. Of the two rammings, one ship hit the Esso Paulsboro pier while maneuvering to get underway; the second rammed the BP Paulsboro pier while mooring. Whether or not the Corps of Engineers would feel widening and/or relocating the channel is justified is a subject best left to them.

*p.* The statement that "Additional range markers should be placed in areas where vessels must take a heading from a stern view" is too general to comment upon.

Proceeding on to a review of the congressman's Proposed Vessel Traffic Safety System for the Port of Philadelphia and the Delaware River, the following comments are offered:

*a. Page I.*—The "basic traffic system" which is viewed as ideal would be of limited usefulness, particularly during periods of reduced visibility, without the use of radar for surveillance to assure compliance. The addition of radar of course leads to the designation "sophisticated system" which in turn is termed "inadequate in that the end results are not sufficiently effective considering the cost factor." I do not agree. Just as radar is used for enforcement on our highways, most likely to reduce the number of law enforcement officers needed for surveillance, so do we need radar as a part of our VTS, for surveillance.

*b. Page II.*—The basic vessel traffic system is defined by the GAO as one that includes regulations, traffic separation schemes, or a communications network—including vessel movement reporting procedures. We have all these elements, to the degree which I feel is required, in the Delaware Valley area. We have a vessel traffic separation scheme at the entrance to the bay. We have regulations, in terms of: The Rules of the Road, regulations governing the handling of hazardous materials (and enforced by my men), regulations governing the anchorages, and orders stipulating vessel separation in periods of fog—to name several. Further, we have a vessel reporting system, very ably managed by the Philadelphia Maritime Exchange with the cooperation of the Pilots Association. Finally, we have a bridge to bridge communications net work using Channel 13 (FM), to facilitate the coordination of efforts as vessels transit the channel and maneuver to and from facilities.

*c. Page I.*—While the proposal seemed to initially rule out radar (since it would then escalate cost-wise to a "sophisticated system"), the discussion immediately visualizes the presence of radar. I am pleased to see this but fail to understand where the personnel will come from, since no additional personnel resources are apparently contemplated in the comment "—so material procurement and maintenance costs will be the only new major expenses." This is shortsighted and reflects no appreciation of our manning problems at today's level of mission implementation/accomplishment.

Likewise, I am totally at a loss to understand how, given no increase in personnel, we will carry out existing mission responsibilities and at the same time man an installed network of visual towers operated in conjunction with the proposed radar and communications center.

Tower and equipment maintenance, in addition to the manning, will have to be accomplished, somehow. I need a more detailed statement as to exactly how the congressman sees his proposal being implemented before I can comment objectively.

*d. Page 2.*—I can appreciate what the congressman is striving for by prescribing speed limits and the use of tugs. Of course it would have an economic impact on the port. I would be interested in hearing what those organizations promoting the port (such as the Philadelphia Maritime Exchange and the Philadelphia Port Corporation), and those whose livelihood is dependent upon and contributes to the economic viability of the port have to say about such a broad proposal. I am sure the 10 knot limit in the lower bay would be of particular

interest to the pilots; it might well have some implication with respect to the need for increased anchorage dimensions.

I am particularly gratified to note the apparent awareness that regulations without a means for surveillance are of little value.

*e. Page 3.*—46 CFR Parts 146 and 147 contain a list of explosives and other dangerous cargos. The regulations governing the cargos covered therein are enforced by the Coast Guard. You have undoubtedly noted that a good number of the 914 pages of regulations are devoted to merely listing the products and stipulating stowage requirements. I am not of the opinion that a Coast Guard escort of all ships carrying dangerous cargo is necessary, desirable, or, in the absence of additional resources, possible.

*f. Page 4.*—No comment except to note that we are essentially doing all that is discussed at the present time—on a random basis. Our safety record does not indicate a need for stepped up activity.

*g. Page 5.*—The need for the expansion of existing anchorages was not substantiated in a recent study contracted for by the Corps of Engineers—except for improving Marcus Hook anchorage in the absence of a modern deepwater port. The study, the results of which is titled "Engineering and Economic Analysis of Delaware River Anchorages", was conducted in 1973 and 1974 by Tippetts-Abbett-McCarthy and Stratton, Engineers and Architects, of New York.

*h. Page 6.*—The difficulty noted with locating and identifying the aids at Egg Island, Ben Davis Point, Dunks Point and Arnold Point, as well as similar towers on the Delaware side of the channel, is not understood, except perhaps as it pertains to small craft. However, if we are primarily concerned with shipping in the usual sense, and I would expect that to be the case in a discussion of the need for VTS, we have adequate aids marking the shipping channel. The aids inshore in the bay are primarily for the benefit of smaller craft, and most especially at night. The characteristics of the shoreline, coupled with identifying marks on other aids in the immediate area assist in identifying those towers during daylight; the light characteristic provides identification at night.

We are presently installing new dayboards on a number of ranges on the Upper Delaware River, to improve visibility. Similar changes can be made elsewhere if the users indicate there is such a need.

More specific comments were made earlier in this letter with regard to specific segments of the channel and the aids to navigation system.

*i. Page 10.*—The Coast Guard periodically monitors Channel 13 (bridge to bridge circuit). The enforcement of circuit discipline is a matter for the FCC.

The Coast Guard, namely my office (in the Port of Philadelphia), does, on a continuing basis, consider "No Passing" zones at various locations along the channel. We presently have one in effect on Mifflin Range. On occasion, we have closed the channel completely.

*j. Page 11.*—The proposal concludes by again promoting a basic vessel traffic system; however, between Page 1 and Page 11 I am under the distinct impression that we are discussing our needs in terms of a sophisticated vessel traffic system.

I am enclosing a summarization of my findings at the conclusion of a study I undertook with respect to vessel casualties during the period 1 January 1967 through 1974. You may have obtained a copy earlier, but I feel it is pertinent to our present discussion.

I trust the foregoing is responsive to your desires. The subject of port safety is a broad one; it includes not only requirements for traffic regulations and maintenance of an adequate system of aids to navigation, but also it requires consideration of how cargoes (particularly dangerous cargoes) are handled, both aboard ship and at the facilities; it includes a review of how facilities are maintained and how ships are constructed and maintained—how well crews are trained. To emphasize any one of these aspects at the expense of another would likely not serve to effectively improve our overall mission accomplishment in port safety. Increased performance can only come about with increased personnel resources and equipment—if you are willing to concede that, by and large, our personnel are fully and effectively employed at present, not only here in Philadelphia but generally throughout the Coast Guard. I feel they are. I also feel it would be the height of complacency to say we are presently doing all that needs to be done. We aren't. Given adequate resources, we can.

Very truly yours,

D. C. GOODWIN,  
*Captain, U.S. Coast Guard,  
 Captain of the Port, Philadelphia.*



Mr. EILBERG. Now, Mr. Chairman, I do not know exactly what procedure you would follow, but I would like to make a statement that we were given kindly by the Coast Guard, a statement of charts of the Delaware River and Delaware Bay which showed through 1974 all the collisions, groundings and rammings, their locations, their precise locations.

We took those charts and superimposed upon them in very brief language, comments or suggestions as to improvements that might be made.

I would like the chairman's permission to bring those charts up at this point and, with the assistance of my assistants, review those for the benefit of the committee so that you might understand and the committee might better understand the kinds of things that we are looking for.

Mr. BIAGGI. I have no objection to that, but I would ask Mr. Eilberg to defer until Mr. du Pont has completed with his questions.

Mr. EILBERG. By all means.

Mr. DU PONT. Do you want to continue on another subject?

Mr. EILBERG. Excuse me, Congressman du Pont, I do not want to continue on another subject; I wish to present the Coast Guard charts given to me and the comments. You can see from the charts, which are marked "Collisions, Groundings, Rammings," when they occurred, and what our recommendations are to minimize accidents from occurring.

Mr. DU PONT. Mr. Chairman, I would do it either way if that is the final question or area that Mr. Eilberg has.

Mr. EILBERG. At this point.

Mr. DU PONT. Well, why do you not go ahead and do that?

Mr. EILBERG. I know that you are in a bit of a rush.

Mr. DU PONT. Well, I have another hour.

Mr. BIAGGI. Why do you not go ahead?

Mr. DU PONT. You want me to go ahead? All right, I will go ahead in case time runs out.

Captain Goodwin, I am at this point a little bit confused as to just what kind of vessel traffic system we have. I listened with interest to Mr. Eilberg's questions and it must be me that is confused.

I thought that you said that we did not have, at one point, that we did not have the basic system and yet in your testimony you say that you already have the basic system, which is on page 11, in the form of regulations, traffic separation of the Maritime Exchange Reporting System.

So would you say today that we have a basic vessel traffic system in the Delaware River?

Captain GOODWIN. Yes, sir, if I said we did not, I am sorry. I must have slipped up.

I feel we do have the basic system and Admiral Rea commented on New York. I feel that any system of regulation requires the surveillance capability just as our police officers use radar and so forth and I would certainly want some form of radar in the port area of Philadelphia.

Mr. DU PONT. Well, now, is that vessel traffic system, in some form that we could put it at this point in the record, listing exactly what it is and what its components are? Is there a public document?

Captain GOODWIN. No, sir, it is an—pretty much of an informal thing and comprised of the regulations that the captain of the port

put out for the anchorage down in Big Stone Anchorage, the regulations we have prescribing vessel separation during periods of reduced visibility of 1,000 yards, of course the rules of the road and that nature. That is the regulatory part of it. The communications are under the auspices of the Maritime Exchange with their reporting stations at Henlopen and in the Marcus Hook area and the vessel traffic separation that is referred to, I feel we have where we need it, and that is at the entrance to the bay.

Mr. DU PONT. So if we have the basic system, the real issue is, should we go to the more sophisticated system and I gather that is your conclusion that that would not be particularly helpful, but I would ask two questions—three questions.

Surely it would not be harmful and, second, what would it cost if we went ahead and put in a sophisticated system appropriate to the Delaware River that is in ballpark figures; and, third, would not it be particularly helpful in two of the pressure points, looking at your chart of accidents on the river, at the entrance to the Chesapeake and Delaware Canal, where there have been a large number of accidents at one time or another and slightly north of there at the Goose Island Passage where you turn around the wildlife refuge. Those are the two places that show as the most susceptible to accidents and would not the system, more sophisticated just be more helpful at those two points?

Captain GOODWIN. Yes, sir. I am in favor of a sophisticated system. It is the only system that I want.

But I think that the priority that the Commandant has assigned to it, based on our safety record in the port, is realistic.

When I made the study, if that is what you want to call it, I started off and I was a little bit worried for fear that maybe we had gotten so wound up in the day-to-day operations that there were things occurring that I was not aware of, maybe the situation was worse than I thought and I was not sure where it was going to come out. I was quite surprised, quite frankly, when I found that we averaged two and a half per year vessel accidents.

Now, while we have those areas, and certainly they are areas that they are looking at, and that is why we had our radar van in those areas. We again have to look at the severity, or grounding or ramming, I don't think there is any man who had been a skipper of a vessel whose vessel has not touched a pier a little harder than he intended and you call it a ramming. That is a matter of dollar value that attaches to it, I believe.

Mr. EILBERG. Mr. du Pont, would the gentleman yield?

Mr. DU PONT. Yes.

Mr. EILBERG. In your questioning concerning the vessel traffic systems referred to a sophisticated one. I wonder if you have a copy of the GAO report in front of you.

Mr. DU PONT. Yes, with the table on page 6.

Mr. EILBERG. Would the gentleman be kind enough to look at the paragraph at the bottom of page 7. It reads:

With a total estimated investment of from \$3.5 million to \$7 million, the Coast Guard could develop basic systems in other ports and waterways that should prevent about 52 vessel casualties a year. The ports and waterways where a basic vessel traffic system should be more cost-effective in reducing vessel casualties include Chesapeake Bay, Baltimore, Norfolk, Hampton Roads and Newport News, Delaware River and Bay, Philadelphia, Trenton, and Camden, and five sections of the Gulf Intracoastal Waterway, et cetera.

So obviously there is some disagreement as to what is a basic vessel traffic system between the GAO and——

Mr. DU PONT. Well, that is a good observation and that is why I asked the initial question. But if you turn back to page 6 of the GAO report and look at the four elements that they list in the basic system, it appears that all four of those already are in existence here according to the Captain's testimony. The radio, the bridge-to-bridge telephone, the traffic separation scheme are in these parts of the river and the only remaining question is the regulations, which is why I asked the question.

Mr. EILBERG. May I respond?

I think we can secure agreement on the fact that all of these kinds of traffic systems, radar systems, you can have TV observations, there are a whole range which goes from very simple ones to complicated ones.

I would suggest that the use of the language, "basic system" or "sophisticated system" really is an arbitrary one and really does not have a great deal of meaning.

Mr. DU PONT. Well, the point of my question here is to find out what the cost would be and whether it would be effective to put these other three items in that they list, which they call sophisticated systems, and see whether they would be helpful, particularly at the two pressure points I mentioned and to see whether they would be a substantial financial cost.

Captain GOODWIN. Well, I am not prepared to talk about the cost because I am not familiar with it. I can certainly say from an operational standpoint it would be helpful.

I would like at this point to mention, too, that while there were a few comments in your report as concerns the Delaware Bay and River, it is, as I recall, this was one of the ports the GAO Committee personnel did not visit.

Mr. DU PONT. Just looking again at the GAO report, they estimate somewhere between \$9 million and \$11 million for the cost of the system in New York Harbor, which is many times more sophisticated in its problems than we have in the Delaware River.

Would it be fair to say, or—let us say, at the outside, for \$5 million we could develop a sophisticated data controlled system here? I am just looking for a ballpark figure, \$5 million, plus or minus \$1 million? That it is close enough for Government work.

Captain GOODWIN. Yes, sir. That is a lot of money for the Coast Guard. Yes, I would say we could put one in for \$5 million, would you not say, Admiral? I'm sorry.

Vice Admiral REA. I would certainly say the starting point, Mr. du Pont, the radar certainly would certainly help, some surveillance would help, and reduce the possibility of an accident.

Mr. DU PONT. So it would be your—as I said at the beginning, it certainly would not be harmful.

Vice Admiral REA. No.

Mr. DU PONT. If someone were to present you with the \$5 million, things would get better.

Vice Admiral REA. I think it is possible.

Mr. DU PONT. Well now,——

Vice Admiral REA. Also, our city of New York, and we also could use it better over there and I would not want to indulge in that argument with this committee here today.

Mr. BIAGGI. Would the gentleman yield?

I would like the committee to know that for the record, New York with all of its traffic, which is many times that of the port of Philadelphia or Delaware Bay, we are No. 7 in the priority list. It is a question of money and this area is scheduled No. 12.

The fact is, no one disagrees that the "sophisticated"—which took on that characterization as a result of the GAO report—vessel traffic system would benefit the maritime industry. Again, it is the question of priorities and we sympathize with the representatives of Delaware and Philadelphia, but happily New York is five up on you.

Mr. EILBERG. Would the Chairman yield for a moment?

I think the application of terms and ballpark figures are really not very helpful in trying to find a solution to whatever problems there are. We have taken the trouble to provide suggestions. Many of these require the use of no money at all.

The people we have consulted feel that many of these suggestions are valid ones. I do not take the position that we need a "sophisticated system."

I say that some or all of these suggestions should be considered and that the figure would be nowhere near \$5 million.

Mr. BIAGGI. In response, I call attention to the reply from Admiral Rea stating that the third district staff will review your recommendations and perhaps have another point of view, but certainly give it additional consideration.

Mr. DU PONT. Well, again, the point to be made is to try to get in my mind, some kind of idea of what we are really talking about here.

I recognize that the admiral has a conflict of interest between the Delaware River and New York Harbor but we can settle those conflicts with a few words in the appropriation bill as to where the money ends up and take that burden off your shoulders for you.

We are talking only about \$5 million to get the most sophisticated system and maybe that is not necessary. But the important thing was your statement that you thought, particularly at those two places in the river that I mentioned, that it would be helpful and I think that that is the primary response to come out. How it is funded is part of your problem, but it is also part of our problem.

Captain GOODWIN. Mr. Congressman, could I just make one comment there?

If you do give us the money to build it, I do hope that you will get us the men to man it because as Congressman Eilberg states here, on his proposed radar center, it would be manned by Coast Guard personnel, some material, procurement, and maintenance cost would be the only major expenses, and it ain't true.

Mr. DU PONT. We would certainly do that and—as you recall, I had as a result of a meeting that you and I had in January, I had a conversation with Admiral Siler at the appropriations hearings about the assignment of additional men to Philadelphia in your harbor safety unit which you seem to feel is necessary. He did reply that he did not need any more money in his authorization bill, that he had plenty of money to supply the men if he thought the men were justified.

So we would certainly look at the financial aspect of it.

Mr. EILBERG. If I may interrupt for a minute.

Do I understand that the money is there for manpower if the admiral decides that the system is necessary?

Mr. DU PONT. We were referring in that authorization hearing to beefing up the port safety group and I was particularly concerned with inspecting hazardous cargo vessels and we were not talking about the vessel traffic system.

But the point that I was making in this case was that if we had to have additional personnel, I would certainly put them in that appropriation at the same time.

Mr. HEYWARD. Mr du Pont, in that regard, I would like to state that the committee in its authorization legislation sets the level of personnel for the Coast Guard. If and when additional personnel are moved to Philadelphia or Delaware Bay it has to come from somewhere else, unless the committee is going to authorize additional personnel to meet the needs.

Mr. DU PONT. Probably they could come from New York City with no trouble at all.

All right, let me move to another question. It seems to me, even though you have some regulations regarding vessel traffic in the river, that you could do more in that area. For example, when the tankers lighter off at Big Stone Beach and start up the river, it is my impression that they do so with very little to spare in the way of draft clearance. They do not lighter off any more than they have to because it costs them money to do that. So sometimes they come up with just a few inches under the keels. They tie up on the high side of the tide and they pump fast enough so they do not go aground as the tide goes out.

Would not it be appropriate for the Coast Guard to put in effect a regulation that says how much you have to lighter off and get a few more feet of clearance there so there would not be as many groundings there?

Captain GOODWIN. I think that could be a possibility, yes, sir.

Mr. DU PONT. I do not know how many of your accidents that you tabulate here were groundings and I do not know how many of those involve tankers that have lightered off oil, but it seems to me that is a relatively simple way and easily monitored way to cut down on problems of that kind.

Captain GOODWIN. I would want to take a look at the causes of the groundings and again it is easy to regulate and we have the authority and can do it very easily but we try to work closely with the maritime exchange.

We try to consider the economic impact what we do, this cost-benefit ratio, perhaps thing. In 2 years, we have had one grounding that I am aware of that is—that has resulted in significant pollution in the port area and that was with the *Mellon*.

But, we could prescribe that they lighter off to a lesser depth.

Mr. BIAGGI. On that point, Captain, in pursuit of Congressman du Pont's question, how many groundings have you had as a result of insufficient lightering?

Captain GOODWIN. Mr. Chairman, I do not have the figures on that, but I could work them up and get them with probably not too much trouble. All I would do is review those charts and the recapitulation here.

[The information was not received at time of printing.]

Mr. BIAGGI. For the record, I would appreciate if you do that, but for my own immediate information, does it happen with any degree of frequency?

Captain GOODWIN. I would say no, sir, it does not.

Mr. BIAGGI. Thank you.

Mr. DU PONT. Captain, one question about the regulation and the procedures you used to issue them. Referring again to the GAO report, there are several paragraphs about how the captain of the Coast Guard, captain of the ports in New York recommended various regulations on speed limits and vessel movements in fog, and so forth.

When you propose a regulation, I am using that word as a term of art, does that regulation take on the effect of law or does it have to be—after you propose it, does it have to be further processed in some way before it gains the total affect of law?

Vice Admiral REA. May I try to respond to that, Congressman du Pont?

The authority and procedures available, if you need to get a regulation out right now because of some immediate situation, emergency situation, the captain of the port can promulgate that right now. It is not used very often because those situations did not cover authorities there. But in the more orderly manner and when you put a regulation out which is not quite that emergent, you had to follow the Administrative Procedures Act, have public notice, put it in the Federal Register, have a public hearing, promulgation of the regulations.

Mr. DU PONT. Now in the case of the Port of New York, this has from time to time been done. The proposed regulation has been issued and the procedures gone through. Has that happened here in the Delaware River?

Vice Admiral REA. I will refer to Captain Goodwin. It certainly has happened in New York. It could have.

Captain GOODWIN. I have right now three proposed report orders or regulations. They have not gone down to Washington yet and they are being observed by the Maritime Committee in the port, but they have not been finalized or registered in the Register.

Mr. DU PONT. But you intend to pursue that?

Captain GOODWIN. Yes, sir.

Mr. DU PONT. Is, for example, the traffic separation scheme that exist at the mouth of the bay a proposed regulation or actual regulation?

Captain GOODWIN. That is published on the charts.

Vice Admiral REA. The traffic separation scheme as you approach the Chesapeake Bay—in New York, are an international scheme which had been adopted by ENCO.

Mr. DU PONT. But they have not—so they are not a regulation?

Vice Admiral REA. No, they are in the form of a regulation and IMCO has asked that all countries take action to—I cannot think of the word they have, but that the countries take action.

Mr. DU PONT. Ratification?

Vice Admiral REA. No, it is not a ratification. But IMCO is and has specialized, has recommended that the nation take steps to penalize or take actions against their mates who do not follow those separation schemes. If there was a port, master or mate failed to abide by those, when we would pursue against his license under RS 4450.

Mr. DU PONT. What about the vessel traffic separation scheme up in the Delaware keeping greater distance in the fog, for example, is that a regulation?

Captain GOODWIN. Right now that is an interim regulation. It has not been formalized and it is being on a cooperative basis, being adhered to. It is an interim regulation.

Mr. DU PONT. That is one of the ones that you intend to pass on to Washington for final action?

Captain GOODWIN. Yes, sir.

Mr. DU PONT. Do you have any speed limit, regulations in effect now in the river?

Captain GOODWIN. No, no, sir, no specific speed limit. Again to answer that, and to discuss the subject of speed, would be a little bit messy. I have some comments on speed that I would like to make if you feel we have the time.

Mr. DU PONT. Well, my point at the moment is to make sure, just to see if there were any regulations.

Captain GOODWIN. No, sir. I would not want to put a specific figure, not in the river. I understand the port in New York tried it and decided that it was not practical there.

Mr. DU PONT. All right, I think that that would conclude my questioning, Mr. Chairman. Perhaps we can go to Mr. Eilberg's chart and work on that problem.

If I have any more, I will come back to them in a second.

Mr. BIAGGI. All right.

Mr. Eilberg?

Mr. EILBERG. Yes, if I could have Mr. Duld from my staff come up to the maps.

Mr. BIAGGI. May I have your attention, please? While the charts are being arranged, Congressman Eilberg has stated that he was informed by various labor groups involved with the marine industry that they have an accident every day. Would you respond to that?

Vice Admiral REA. Thank you Mr. Chairman.

Mr. BIAGGI. Do your records reflect that?

Vice Admiral REA. Not to my knowledge. I will respectfully request that Mr. Eilberg pass the union's report to us because our records do not reflect any kind of data. Our files do not reflect any data like that. If there are accidents every day, then they should be reported to us and we will certainly investigate them and I would just urge that the unions be encouraged to make those reports to us so we can look into them.

Mr. EILBERG. Mr. Chairman, this information comes from the local Seafarers' representative John Fay and perhaps he might want to write to Mr. Fay and I am sure he would respond.

Mr. BIAGGI. Yes, we will. If Mr. Fay would take initiative and just respond, make a statement of fact to this committee we would appreciate it.

Let me raise a question. I have the advantage of the overflight this morning.

How do you view hazardous cargoes now and how do you plan to deal with them in the future, in light of the proposed developments and in light of the nuclear plants being operational?

Captain GOODWIN. Well, of course Mr. Chairman, our people board the vessels that are handling cargoes of particular hazards.

I referred several times to the importation of liquefied natural gas this morning. We have come up with our proposed guidelines for this.

In that particular case, we propose to escort the vessels. We strictly limit their movement in the port. We will require closer supervision of their hookups and when they unhook, things of this nature. I do not know whether that answers your question or not.

Mr. BIAGGI. That is what you are doing now.

What will you do, if anything, when the nuclear plant becomes operational?

Captain GOODWIN. In that particular case, sir, we propose to pick up our escort a little further south than we initially intended. We have moved our intercept point from 6 miles below the C. & D. Canal to 18 miles below the canal to provide a Coast Guard escort and we also will require the provision of a commercial tug to accompany the ship as it is coming up the channel, in the event that he loses his propulsion or steerage. Things of this nature. But in the LNG tanker construction, they have built in redundancy to a degree that would probably preclude some of the accidents that we have had with conventional construction and there again we point out that we have double hull construction on our LNG carriers.

At a hearing we held locally, some people I think looked—questionably the testimony that entered that had the *Queenly* hit an LNG carrier down in that position rather than the *Corinthos*, there probably would have been no explosion. As near as I can make out from what little I know of the occurrence, I think this is probably true because of the double hull construction on the LNG tankers.

Mr. BIAGGI. Do they clear the waters of any other vessels when you have transportation of hazardous cargoes?

Captain GOODWIN. No, sir, not—with the LNG; we have problems in this port that you do not have in other ports. The long transit time coming up the channel. The fact that you have just one channel serving the port.

We could not prescribe just one-way traffic for instance. We would have to have a passing situation and we had to prescribe regulations that, if the local communities decide they want LNG in their area, we will have to prescribe the best regulations we can to minimize the chances of an accident.

Mr. BIAGGI. One further question before we go to the charts.

I recognize you have acknowledged the contribution of Capt. Paul Ives and Capt. Sam Schellenger and their respective organizations.

Is it the committee's understanding of this contribution correct when they conclude that the Coast Guard works together with these various groups, bearing in mind the various considerations?

Captain GOODWIN. I think we work closely together. I have no—I look to them for a lot of advice and I think we have a very close and harmonious working relationship.

Mr. BIAGGI. And you regard their input?

Captain GOODWIN. Absolutely. As a matter of fact, it was partly—well, yes, sir, no doubt about it.

Mr. EILBERG. On that point, may I ask a question of Captain Goodwin?

Mr. BIAGGI. Yes.

Mr. EILBERG. Until recently, I understood that the Pilots Association had an opening at the bay from which the pilot would board ships for entering the bay. Also they had radar system on the ship.



According to newspaper reports, that ship was taken out of action because of the expense involved. Is that correct, Captain Goodwin?

Captain GOODWIN. I am not sure what the reason was, Mr. Congressman.

I think that Captain Schellenger from the Pilots Association is here, and I think he would probably be better equipped to respond to that question than I.

Mr. EILBERG. Mr. Chairman, I would like to submit for the record a photograph from the Philadelphia Inquirer which indicates this ship from Philadelphia being tied up and the Inquirer stating that the former Coast Guard icebreaker is being laid up because of the expense of maintaining it, officials representing the Pilots said.

Mr. BIAGGI. Without objection.

Mr. EILBERG. Now, Captain Goodwin, I understand then that they gave the ship up and went ashore. What did you do for radar control at the entrance of the bay during that period?

Captain GOODWIN. What did I do for it?

Mr. EILBERG. What did the Coast Guard do, if anything?

Captain GOODWIN. We have noticed no difference in the operation down there. We have done nothing other than to monitor the situation. I do not—there has been no indication that the services have been reduced.

Mr. EILBERG. So you do not consider that their contribution insofar as radar was any significance as far as the Coast Guard was concerned?

Captain GOODWIN. Their installation of radar?

Mr. EILBERG. Yes.

Captain GOODWIN. I think after it has had a chance to be proven, it is quite new, that we may find that—that they are making considerable contributions. It may have an impact on what the Coast Guard would decide to do down there.

Mr. EILBERG. Now they have reinstalled the radar on shore now, permanent quarters on shore and you take the position that you do not know that that radar has any value at all as far as ship safety is concerned, is that your position, Captain Goodwin?

Captain GOODWIN. No, sir, it is not. I am sure it has value.

Just for the relative merits of the installation, they will have to hold off and see what materializes, until we get a chance to gain some experience or they get a chance to gain some experience.

Mr. EILBERG. And you do not feel that there is anything unusual or anything questionable about having this as part of the government process if the prior installation became radar, you see no problem with that?

Captain GOODWIN. No, sir.

Mr. EILBERG. We may disagree on that, Captain.

What happens if we decide that the radar is essential and the radar goes out. Does it become a matter of concern to them?

Captain GOODWIN. It might and then I think it is incumbent upon the Coast Guard to find the funds and put their own radar in.

Mr. EILBERG. But you have not sought to do so so far, have you?

Captain GOODWIN. No, sir.

Mr. EILBERG. All right, Mr. Chairman, we have these sketches which I would like to show to you if I may. This is a rather difficult place. Can we move this around somehow?

Mr. BIAGGI. Let us go to it.

[Pause.]

Mr. EILBERG. Mr. Duld.

Mr. DULD. To start off with Mr. Eilberg's proposal was at point one and two here for an establishment of a radar system that would have control over the Delaware Bay area insofar as vessel traffic control and its movement is concerned.

At the present time the only traffic control that you have there is that which is established by the Pilots Association of the Maritime Exchange.

Mr. Eilberg has also proposed additional channel markers in the particular area and we have stretches that go for as far as 2 miles and some places 1,800 yards apart without markers on one side of the channel.

In comparison with the chart that was supplied by the Coast Guard, it indicates in the particular areas that Mr. Eilberg has made his suggestions that there have been some incidents which have taken place. Whether or not the establishment of what Mr. Eilberg has proposed will alleviate the present problem remains to be seen.

If we go on to the next chart. In this particular area, we have also indicated the possible location for range markers. We have ships that are traveling south but must look over their shoulder to take a bearing on range markers that are behind them or astern of them.

There are actually no range markers to line their ship up directly ahead of them. We have indicated this in various places along the river and this information by the way has not come from Mr. Eilberg or myself directly. We do not navigate these waters every single day but have been introduced as proposals and suggestions by the people that Mr. Eilberg has indicated in previous statements.

We have also indicated that there is a possible widening of channels or a moving of channels, the midchannel because it runs too close to fueling piers and docking areas that cause a hazardous condition. These are contained on the charts.

Especially now for the Delaware Canal, the Chesapeake and Delaware Canal, Mr. Eilberg has indicated the need for a vessel traffic control spot. Now in comparison, if they will just look at this one particular area, the Coast Guard charts indicate a high degree of accidents or incidents within this particular area. However, I do find that Captain Goodwin, since we have come out with this, has indicated the need for a vessel traffic control at this particular point.

We may, Captain Goodwin, have shown on this particular chart a wrong location by maybe an inch or two insofar as the scene of the fatal collision. In this particular area, we have asked for a relocation of the channel because we have found from ship masters, captains of naval ships that have navigated these waters on a weekly basis, have indicated that right in that area in the lower left-hand side that it is quite difficult in making the channel where the two ranges cross each other.

However, I understand Captain Goodwin has indicated that they can make an early turn but it is not indicated on that particular chart and I am not sure about the foreign ships that are coming in, whether they would have that information unless the pilot says that we can make an early turn. However, if this was established, it would be a potential for alleviating the accidents or a potential hazard at the present time.

Right here at Billings Port range, if ships making their turn at that point, and I understand from the Coast Guard charts, if you look at it, there have been incidents right over there, quite a few and that is a feuling pier. Quite a hazardous area.

They may have been lucky up until this time, but who knows about tomorrow or next week? We have not gone any further up the river. We have stopped at this point.

However, there are other charts insofar as all the way up to Morrisville and Trenton is concerned, showing some accidents in regard to what the Coast Guard has logged.

Mr. EILBERG. That is all, Mr. Chairman.

Mr. BIAGGI. Admiral?

Vice Admiral REA. Thank you, Mr. Chairman.

I think probably these are suggestions already made to Captain Goodwin, but rather than cut that off there, and have him give a reply, what I would like to do is perhaps suggest that perhaps your committee would refer these to me, Third Coast Guard District, and also I think you need to refer them to the Corps of Engineers because he is talking about matters in there about widening the channels, which is more appropriate to the Corps of Engineers.

But I would welcome the opportunity to comment on these proposals and give you a possible response rather than to attempt to go over them now.

Mr. EILBERG. Admiral Rea, I think that you only need to turn to Captain Goodwin to get those materials. We have presented all of this to Captain Goodwin.

Vice Admiral REA. Well, Mr. Eilberg, Mr. Chairman, are these the same identical proposals to which Captain Goodwin has already responded?

Mr. EILBERG. They are, Admiral.

Vice Admiral REA. All right. We will look those over again, sir.

The answers may not be any different but we will look them over again and try to give you another overview of them.

Mr. EILBERG. And/or keep pressing until we get some action out of the Coast Guard.

Vice Admiral REA. But I do think it is a matter for the corps. I do not know whether you want to refer them to the corps or not, but some of these matters are beyond us.

Mr. EILBERG. You can make recommendations to the corps too, just as well as we can, can you not?

Vice Admiral REA. Well——

Mr. EILBERG. Do you not?

Vice Admiral REA. We can. We can when we get matters of those that are referred to us, but I thought maybe the committee would like to. Either way. We can do it either way.

Mr. EILBERG. We may do this, but you may also, if you think any change is correct.

Vice Admiral REA. Oh, we can.

Mr. BIAGGI. All right, no further questions, Admiral. Captain, thank you for your contributions. I suggest, if you will, stay where you are because I am sure there is going to be some interchange.

It is our experience that interchange is full and wholesome.

Vice Admiral REA. We will.

Mr. BIAGGI. I would like Capt. Paul Ives.

I believe you have expressed a desire to address us.

Capt. Paul Ives represents the Pilots Association for the Bay and the River Delaware. He is also the secretary of the American Pilots Association, and we welcome you.

**STATEMENT OF CAPT. PAUL IVES, PILOTS ASSOCIATION FOR THE  
BAY AND RIVER, DELAWARE**

Captain Ives. Thank you, Mr. Chairman. I would like to welcome you and the other members of the committee to Philadelphia and by word of further introduction if I may, I would like to say that I am chairman of the American Pilots Association Electronics Aid Committee and participate in numerous committees in Washington on planning of this sort. I am presently chairman of the Radio Technical Commission for Marine Services Special Committee. Sixty-seven, Vessel Traffic Systems. In addition to that, I am chairman of the Port of Philadelphia vessel traffic study group under the auspices of the Joint Executive Committee and in this capacity I wear two hats. I am a working pilot on the Delaware River and just as recently as yesterday morning I conducted one of those ships you were talking about from Big Stone Beach anchorage to the Port of Philadelphia.

In the course of my activities on the national level, I have had an opportunity to visit the Port of San Francisco, I think at least four times in the planning stages of the VTS systems. I have been there as recently as a year ago. I have visited and observed the Seattle Puget Sound vessel traffic system. I was in the Houston control center and have been in touch with the New York group on their deliberations. Last January I was a guest of the Norwegian Government making some observations of the proposed electronic surveillance system for Oshofjord. I have a number of opinions and observations about vessel traffic systems; and, getting right down to the local level, which is what we are here to address today, I would like to give you some of my observations about the affectiveness of what we are presently doing here in the Delaware River.

First of all I think we have to define what we are talking about in the vessel traffic system. I think the port was unjustly criticized recently, and I think the public was given the idea that we do nothing here to regulate traffic; that ships run willy-nilly up and down the river, careening off anything that might happen to get in their paths, at exorbitant rates of speed. I think that a little observation would show that that is not the truth. In fact, I think the opposite is more the case, in that I think we have a very highly defined vessel traffic system in the Delaware River. It is not federally sponsored, but it is industry supported and it is voluntary and enjoys almost 100-percent cooperation from the people who use it.

By way of a little history, after the mission San Francisco casualty in 1958, the Port of Philadelphia, under the Joint Executive Committee, which is a collection of all the maritime interest in the port, got together, and I will not burden you with a long history of the bridge-to-bridge radio telephone deliberations, but we were able to get a specific radio frequency in the VHF maritime mobile band to be used by pilots and shipmasters, specifically for the prevention of vessel casualties.

Mr. EILBERG. You had no others.

Captain IVES. Well, we have the backup system, the pilot boat, which is lying at a pier just inside Cape Henlopen and her equipment is ready to go, and in the event that we have a radar failure at Cape Henlopen, we can operate the radar on the pilot boat at a slightly reduced range.

Mr. EILBERG. Do you think it would be useful to have an installation anywhere else on the Delaware or Delaware Bay?

Captain IVES. Well, I think you run into a cost-benefit ratio, how much better is it going to provide for the amount of good that it can do. Some years ago, the port sponsored a study and I do not have the exact facts at my fingertips now but it was suggested that we should have a chain of radar systems up the Delaware River.

I am afraid I must disagree, again, with my friends and Mr. du Pont who said if New York's radar cost \$10 million we should be able to get by for \$5 million. I think if New York's cost \$10 million, I think ours would probably be \$50 million. Because, whereas New York can cover their harbor from 2 or 3 locations, I think the study that we had showed that we would need at least 10 to 12 radar sites to effectively cover the long and winding Delaware River.

I would say that complete radar surveillance would be very costly for the Delaware River.

Mr. EILBERG. And you do not care for visual towers, either, I take it?

Captain IVES. Well, I think it is good only on clear days and a system which can only be used part of the time, I do not think is effective.

Mr. EILBERG. Would you tell me something again about the Master Mariners Advisory Committee? What is their composition?

Captain IVES. This is a group of shipmasters who are now presently working as port captains, and marine superintendents, and in various executive positions in the tanker companies and dry cargo operators in the port, and it also has members, the representatives of the OCMI and the captain of the port, and the Corps of Engineers. This is an informal group that meets regularly several times a year, and more often if necessary. The president is Capt. Sam Schellenger, the president of the Pilot's Association, and the secretary is Capt. James Wallace, both of whom are here today.

This group addresses problems on a professional basis.

Mr. EILBERG. This includes a number of shipowners?

Captain IVES. Yes, sir.

Mr. EILBERG. How many would you say?

Captain IVES. Every major tanker company. These are the larger draft tankers.

The small freighters do not seem to present the type of problems that we address in this Mariners Advisory Group. This group is mainly to address the problems of the deep draft vessels, the hazardous cargo vessels, and the vessels that could present potential problems in the port.

Mr. EILBERG. Captain Ives, I have absolutely nothing against this organization and I would assume from your words that they do a good job. But I think the obvious concerns that any outsider might have, if I may call myself that, is that an advisory committee that consists of all the major owners of vessels is going to be one that may be

Now, as to the notoriety that we gained here from the most recent ship accident at Marcus Hook. I would like to support Captain Goodwin's contention that when we talk about improvements that can be derived from VTS, you have to address yourself to specific problems that you are trying to cure and I certainly have to agree as a working pilot, that I cannot see any information which could be gained from a VTS that could have prevented that accident. I am not prepared to comment on what the causes of the accident were except to say that it is possible that it was simple human error and a mistake in judgment. If that is what the Board of Investigation determines, I cannot see how any vessel traffic system would have improved that situation. I do not see how it would have prevented the tanker *Elias* from exploding at the pier, and I do not see how it would have prevented a plant casualty, an engineering casualty, on the *Notre Dame Victory* and the subsequent collision with the *Athos*. I think the port interests here have demonstrated, on a voluntary basis their concern for safety in the Delaware River.

I cannot think of any more people who are more concerned with safety; because, after all we are the direct beneficiaries of a safe port.

We also have a long river. We are in direct competition with neighboring ports who are close to the sea. The action we take in promoting safety also has to be consistent with efficiency and we are striving to keep the port open and keep it moving efficiently so that it is an attractive place for vessel owners to send their vessels and for shippers to send their cargo.

In line with this, we have numerous other systems working in the port which enhance the safety of operations. One of them is the Master Mariners Advisory Committee. This is a committee of representatives from the tankers and the large cargo carriers, their owners and operators. The members of the committee are actually licensed master mariners, pilots, or ship masters who are working as port captains in supervisory positions for their companies.

We also have, ex-officio, members of the committee, representatives from the Coast Guard and the Corps of Army Engineers.

Now this committee, on a voluntary basis, has prepared recommendations for the maximum safe draft for vessels transiting the river. The maximum draft that a vessel can carry up the Delaware River is variable. So in cases of extremely high tides, the vessel can safely come with more drafts than it can with less tide. I cannot think of anyone who is in a better position to decide what the safe draft of the vessel should be than the ship master or pilots who are actually going to be responsible for conducting that vessel.

This system, incidentally, has worked very well. Our incident of in-channel groundings due to insufficient water has been almost negligible. I also credit the use of the tide gages to warn us of adverse tide conditions in this regard.

We also review and prepare recommendations for channel dredging, channel maintenance, and anchorage improvement. We prepare recommendations for improvements to the aids to navigation and we address ourselves to specific problems that come up in the port that require answers from a navigational standpoint.

In addition to this, the pilots and the masters and the operators cooperate in scheduling the transit of these deep vessels on the rising

tide to prevent traffic congestion and confusion. That is to say, vessels are anchored at the Delaware Capes awaiting favorable conditions for transit in the river.

When the conditions are favorable as determined through our communications network, it is decided among the pilots and masters which vessels should go first, and the others follow in an orderly fashion with the spacing of several miles in between.

So that the vessel that has the farthest to go up the river will go first and this prevents a lot of unnecessary overtaking and potentially hazardous navigation.

The industry has also voluntarily scheduled vessel transits through the Taconic Palmyra Bridge during peak traffic rush hour openings. This has been at a considerable sacrifice to the industry in time and money but it has resulted in a marked decrease in rush hour congestion on the bridge and I am sure it has been appreciated by the monitoring public.

The point of this is, in spite of the fact that we do not have a federally sponsored vessel traffic program, I feel that the Port of Philadelphia through its various agencies, including the U.S. Coast Guard, has voluntarily instituted those elements of a VTS which it feels are necessary for the operation of a safe port. The cooperation in the maritime industry here has been excellent. I think the question was raised about our relationship with the Coast Guard, and I can only say that I do not know of any other ports where industry and Government work more in concert than they do here in Philadelphia.

I think if Federal money is to be spent in the Philadelphia area to solve problems, I think it might most effectively be spent in the area of channel improvement, deepening the channels, improving the anchorages so that ships will have a safe channel to operate in and they will have adequate anchorages to anchor in, in the event of bad weather or engineering problems. In this regard I would enlist the assistance of the committee in helping us obtain the funds which are necessary to maintain our project depths.

This is the end of my formal presentation. I would appreciate responding to any questions that you might like to ask that I would be capable of answering.

Thank you very much, Mr. Chairman.

Mr. BIAGGI. I want to thank you very much, Captain Ives, for a very lucid statement and very informative one.

I have one question. Do you have a copy of Congressman Eilberg's proposal?

Captain IVES. I do not have it with me, but I have seen it, yes, sir.

Mr. BIAGGI. Congressman Eilberg.

Mr. EILBERG. Captain Ives, you are aware that I have talked to other pilots in preparation today?

Captain IVES. I had heard you were, sir, but I was not able to identify the pilots specifically. Members of my association?

Mr. EILBERG. I do not know. I did not ask whether they were members of your association because I unfortunately did not know you before you stepped up to the table here.

Captain IVES. Yes sir; I understand that you had talked to various members of the industry.

Mr. EILBERG. You know that these are things not just out of my head but conversations with other pilots and a great many other people as well.

Captain IVES. Yes, sir.

Mr. EILBERG. You ended up with some recommendations or possible recommendations.

Do you have any recommendations? You said you would like certain things done if money was spent.

In your comments prepared to the chairman, would you be good enough to add specifically what you think ought to be done, what anchorages ought to be developed, what portions of the channel ought to be widened and the other things?

Captain IVES. Yes, sir. I do not mean to give the impression that we should be complacent. I do not mean to say that we have a wonderful system here and we do not need any help and that nothing needs to be done, because if you have one accident, you should always strive to eliminate that.

I do think the records show that the Delaware River is one of the safest rivers in the United States and I was trying to develop the idea that this is through—this is not accidental, this is through concerted industry action.

Mr. EILBERG. Captain, I will respond by saying that if we were to have another tragic accident today or tomorrow or next week or next month, I will be horrified and that is why I am doing what I am doing.

Captain IVES. Yes sir; I understand.

Mr. EILBERG. One accident, no matter how many lives, is not too much to prevent and when we have made a number of recommendations from professional sources, many of which cost no money, I find it very difficult and have not received satisfactory answers as to why some of these ideas cannot be examined more carefully and adopted.

Now you mentioned the use of bridge-to-bridge communication and the VHF channel. In my conversations with people in your profession, they indicate that frequently these channels are cluttered or there is a great deal of chatter going on in these channels. Is that true or not true in your experience?

Captain IVES. I would say that there is more congestion and possibly misuse of the bridge-to-bridge navigation channel than we would like to see. I am not of the opinion in this port that it had rendered it ineffective. I think it may have rendered it somewhat less effective than it could be and we have been taking steps voluntarily in the industry to single out the offenders, in the absence of FCC monitoring.

Of course, FCC, the Federal Communications Commission, is charged with monitoring these frequencies and enforcing its laws and regulations.

The FCC, for various reasons, has not had the manpower to do the job on these frequencies that we would like them to do. So we have taken up a system of self-policing. The towboat industry who are the major users of the river and these radio channels that we are speaking of, and the pilots, have been in complete cooperation. I neglected to mention that before and they have helped by circularizing their masters and asked them to use the channels properly and we asked our people to please observe the rules and regulations and it is an ongoing self-policing.



Mr. EILBERG. Captain, have you complained to the FCC at anytime about these conditions that you talked about?

Captain IVES. I have not filed a formal complaint in letter form but I am on numerous committees in Washington which deal with these problems and I have access to the FCC through other channels and these type of problems have been brought up. It is a nationwide problem, not only in the maritime service but in other radio services and I was led to believe that the FCC was looking into the matter.

Mr. EILBERG. Could I ask Admiral Rea or Captain Goodwin whether they had made any complaints with regard to the use of these channels?

Vice Admiral REA. To my knowledge, we have not, Mr. Eilberg, but I would like to comment that I think the discipline and the use of channel 13 is improving all along as the people get accustomed to it. In the Port of New York, we have put out, through a notice, some recommended points for which vessels could call in when they are passing. It is not a mandatory requirement. Just voluntary requirement.

Just so when you pass certain points. That also resulted in approved discipline because our Coast Guard vessels use it and they are all for that. So the situation is getting better on 13. To my knowledge, we have not filed a formal complaint. We have heard and are aware of the overuse of it in certain of the areas and made known to the FCC informally.

Mr. EILBERG. Thank you, Admiral.

Captain, I was of the view of that condition, and of course we do not know what the cost would be and perhaps this would be something for the Coast Guard to study, perhaps, but if there are—were a number of shore installations involving visual communication, would this not be a better system than the bridge-to-bridge communication that you have talked about?

Captain IVES. I am not certain that I understand you, Mr. Congressman. Visual observation of vessels?

Mr. EILBERG. That is right.

Captain IVES. Well, the bridge-to-bridge visual system provides information to the navigators of each ship, specifically in a meeting situation. Presumably, they are in visual contact with each other, either physically or through radar, and shore visibility and on the basis of the information from their navigational instruments and their conversations on the bridge-to-bridge radio, they arrange to make a satisfactory meeting or passing situation.

I would say that of all the services which lends itself least to shore-side assistance, perhaps the bridge-to-bridge radio does not. It is strictly a self-contained operation aboard the two ships that are directly involved.

Mr. EILBERG. I am saying if the channel is cluttered and the conditions prevent adequate communication, would it not be an effective safety device to have visual communication from the shore, with some towers scattered over the most congested areas. Perhaps the entrance to the Chesapeake and Delaware Canal, for example.

Captain IVES. Well, a strictly visual system would be good only perhaps in the hours of daylight. No, sir, I could not—I could not really agree that that would be—that that would solve any specific problems that I know of.

I do not know of any situation where a pilot has been unable to get through to another pilot due to channel congestion when he wanted to.

Mr. EILBERG. On the question of speed, you say that you are self-controlled. Yet the GAO reports indicate that over one-third of the accidents that have occurred and been reported, serious accidents, speed was irrelevant.

Do you not think we should give some consideration to control of speed? I do not mean necessarily in the Delaware Bay but in the more congested areas north of the bay.

Captain IVES. Again, I would please ask your forgiveness for being somewhat opinionated on the idea, but I do work on board vessels and I am a working pilot and I think I have observed some of these problems firsthand and perhaps see them in a slightly different light than people who sit shoreside and analyze the accident after it has happened.

I think that speed on the water is a highly relative thing. Whereas, on the land, people can appreciate a speed limit sign, an automobile is safe at a certain speed in a given area. On the water this does not follow. The speed for a tugboat in an area would not be the same safe speed for a supertanker. The problem is self-regulating, that the large vessels cannot make any appreciable speed.

Because of their size and proximity to the bottom, they can not speed. Most vessels adjust themselves to the conditions and they seek a proper speed for the conditions that they are operating in.

I do not think that speed limits have much applicability on the water.

Mr. EILBERG. So you have had no complaints then about vessels speeding; do you go as far as to say that?

Captain IVES. Well, I think we fell into a statistical trap and I read the GAO report very closely. When accidents are being investigated, the boards of investigation analyze every facet of the problem. Quite frequently and I ask forgiveness of my friends in the Coast Guard, quite frequently it is fashionable for the Coast Guard to assess as part of a problem the speed as a contributing factor. More obviously, if a ship did get stopped in time from hitting something else, obviously he was going too fast.

I think that this sort of statistic which has been creeping more and more into accident reports has finally caught up to us, to the point where we have taken a lot of bad information and made an observation on it.

Mr. EILBERG. So you disagree with one of the main points of the GAO report as far as speed is concerned, I take it.

Captain IVES. Yes, sir. I do not believe that speed is a major factor in most accidents.

Mr. EILBERG. Now you mentioned radar, and until your reference to it, I was not aware that the entire area is covered by radar. Would you—

Captain IVES. Not the entire area, sir, just the Delaware Capes area at the present time, including the Big Stone Beach Anchorage and I would say 20 miles up the bay and 20 miles to sea. It is a 40-mile radar, but weather conditions being what they are, 20 miles would be a dependable average.

Mr. EILBERG. You had one installation at Cape Henlopen?

Captain IVES. Yes, sir.

slightly biased in favor of shortcuts as far as the shipowners are concerned.

Now, how do you respond to that?

Captain IVES. Well, I think that is certainly a possible conclusion. However, I feel that the master on the bridge and the owner of a vessel is going to do what is best for his vessel and he is not going to endanger the multi-million-dollar investment that he has, and I think the interest of the shipowner in preserving his investment, certainly coincides with the interest of the Port of Philadelphia and we do not want any problems either.

Mr. EILBERG. What is your reaction to the—having a tug accompany, one of these large vessels from the channel to the dock, or from the dock to the channel?

Captain IVES. You are speaking specifically of using tugs for docking operations?

Mr. EILBERG. That is right.

Captain IVES. Very well, I think you have to understand as a State pilot, my responsibility is discharged when I bring the vessel off the pier or to a safe anchorage. It is not among my duties, except in cases of extreme emergency, to dock a vessel.

I do not feel completely qualified to pass on whether a vessel should have a tug or not have a tug. I have seen very safe docking maneuvers with no tugboats and I have seen some catastrophes with four tugs alongside.

Mr. EILBERG. With all things being equal, do you think the tug attached is not likely to reduce accidents if the ship has actually got into the channel, the center of the channel?

Captain IVES. I think a tugboat is a great assistance to a ship maneuvering, yes, sir.

Mr. EILBERG. What do you think of the proposal to have the Coast Guard inspect the wiring of ships as they dock?

Captain IVES. Inspect their wiring?

Mr. EILBERG. Yes, at the dock site.

Captain IVES. Well, I am not qualified in that phase of ship engineering. I was not aware that the wirings—you are speaking of the construction of the vessel, the lighting system?

Mr. EILBERG. Yes.

Captain IVES. Well, I think that the Coast Guard, especially on American flag vessels, has very stringent inspections of the ship's engineering plan, including their wiring.

I would like to pass that on to Admiral Rea, if I may,

Vice Admiral REA. Your question—I am not clear of your question—American flag vessels are fully inspected by the Coast Guard; the integrity of the electrical system is a very basic part of the inspection as far as crew inspection and maintenance of vessels. As far as foreign flag vessels which are signatory to IMCO, they have safety certificates and they get safe construction of those. So I am not sure of what wiring we are really speaking of, Mr. Eilberg.

Mr. EILBERG. Well, any wiring that would be involved when a ship docks.

One of our suggestions was that wiring should be inspected by the Coast Guard when a ship docks.

Admiral REA. I do not know how to respond to you too much because I do not quite understand the question. Maybe they are talking about the ground wires that you hook up before you start the discharge of the cargo. I am not really clear on how extensive an inspection we are speaking of. We do make inspection of vessels.

Mr. EILBERG. We are talking about grounding regulations.

Admiral REA. Yes.

Mr. EILBERG. Now, you do make an inspection in each case, did you say?

Admiral REA. No, we are not down there every case. But there is a regulation that requires that, and when our men are down to the dock they check to see if they are grounded, yes.

Mr. EILBERG. Did you say if they are on the dock or when they are on the dock?

Vice Admiral REA. When a vessel moors, and before it hooks up its cargo wire, it is good practice and our regulation requires that a ground wire be hooked up before you start discharging your cargo and loading your cargo.

Mr. EILBERG. Captain Ives, I think a minute ago, said that this was done in every case by the Coast Guard. I am just testing to see whether this is so or not.

Vice Admiral REA. I think Captain Goodwin responded to what is going on in Philadelphia. But as our people in the port get around us, that is one of the things they check, to see whether it is safe to load or unload. We are not necessarily there the moment they hook up, nor are we there when they disconnect. But there is a burden on the master and personnel to carry out this regulation like many others.

Mr. EILBERG. Thank you, Admiral.

Captain Ives, we appreciate your testimony and we hope you will follow through, if you will, with a written statement on our suggestions.

Captain IVES. Yes, sir, this is the—I will at the very earliest opportunity convene the Vessel Traffic Subcommittee that I am chairman of, and if it is all right with you we will review these and give you written answers specifically.

Mr. EILBERG. Which association now would you be submitting that to?

Captain IVES. This is the Vessel Traffic Systems Subcommittee of the Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area.

Mr. EILBERG. Now, I am not sure of the composition of that. Would you repeat that again?

Captain IVES. Well, the chairman of the Joint Executive Committee is here today and I would like to, if possible I would like to, defer to him. It is an industry committee. It represents nearly every user, including tow boats.

Mr. EILBERG. Is this the Masters Advisory Committee?

Captain IVES. No, sir; this is not. This is a larger and more all-encompassing committee. This committee encompasses all of the Port of Philadelphia.

Mr. EILBERG. Would you get a report back here as soon as you can on that?

Captain IVES. Yes, sir.

[No report was received at time of printing.]

Mr. EILBERG. Thank you very much, Captain.

Thank you, Mr. Chairman. I am sorry, counsel wished to ask you a few questions.

Mr. HEYWARD. Captain Ives, in connection with the vessel reporting system, how does it operate and who uses it?

Captain IVES. The system is informal, sir, by standards at other places, I would presume, and certain by Federal vessel traffic system standards but we feel it is adequate. It provides the amount of information that is necessary.

A list is prepared every day of vessel arrivals and departures, the approximate times of departures. This list is disseminated through the Maritime Exchange to the pilots and the operators of vessels on the river and the information is available through the VHF port operations radios, so that in case of poor visibility, they should become a matter of concern to a ship, they can radio in and ask how many ships they expect to be meeting or where they might possibly be encountered and when the ships get close enough, then of course they can maintain the contact by bridge-to-bridge radio.

Mr. HEYWARD. Do they do it by monitoring radio transmissions?

Captain IVES. Yes, sir, every ship is monitoring channel 13, bridge-to-bridge radio channel, and by doing nothing more than listening.

After you have been on the bridge for a short time, you can get a very accurate picture of what is moving around.

Mr. HEYWARD. I assume it is updated by both ends of the river?

Captain IVES. Yes, sir.

Mr. HEYWARD. How about the radar, what is the purpose of the radar and how is that used?

Captain IVES. The purpose of the radar at Cape Henlopen at the present time is to identify inbound ships and outbound ships so that the watch officer, who at this particular moment is the captain of the pilot boat, can dispatch pilots and provide a certain amount of information to the ships about what is moving in the area, should the visibility be poor.

Mr. HEYWARD. So that it is used for safety purposes even though it is a privately operated organization?

Captain IVES. Yes, sir.

Mr. HEYWARD. Thank you.

Mr. BIAGGI. Thank you very much, Captain.

Anyone else care to testify?

#### **STATEMENT OF H. WILLIS JACKSON, CHAIRMAN OF THE JOINT EXECUTIVE COMMITTEE FOR THE IMPROVEMENT AND DEVELOPMENT OF THE PHILADELPHIA PORT AREA**

Mr. JACKSON. Mr. Chairman, my name is H. Willis Jackson and I am chairman of the Joint Executive Committee that was just mentioned a few minutes ago.

I have no prepared statement. I have no prepared statement as such except that I did want to back up what Captain Ives said about, if there is money to be spent in the Port of Philadelphia, we could use some help from you.

I am going to submit to you copies here of our testimony before the civil—before the Public Works Subcommittee on Appropriations in the Senate and House of Representatives, asking for appropriations in

connection with widening and deepening of the channel and approving our anchorages. This is a battle that we have had; this organization incidentally has been in existence since 1888 and included in the membership are labor unions, as you can see on the bottom—I will not list them all—we represent the industry, we represent labor unions and others and our purpose is to coordinate the activities for the port and we work very close to the Pilots Association and all the other organizations are with us.

But I would like to place on the record our testimony which was made by our vice chairman in Washington on April 29th as to the battle that we are having to try to get this money and I am sure that you know what trouble they have in New York of trying to get it, but frankly if there is anything that can be done to help us with appropriations for channel maintenance and for anchorages, this would be money well spent and I would be very glad to answer any questions if anybody has any, but I will put this in the record.

Mr. BIAGGI. We will have that for the record.

[The document follows:]

STATEMENT OF GEORGE BURNHAM, JOINT EXECUTIVE COMMITTEE FOR THE  
IMPROVEMENT AND DEVELOPMENT OF THE PHILADELPHIA PORT AREA

Summary of testimony by George Burnham, vice chairman, Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area, before the Subcommittees on Public Works Appropriations of the United States Senate and House of Representatives on April 29, 1975; and calling for increased funding, as well as the institution of funds for which no provisions has been made, in the President's Fiscal Year 1976 Budget covering those federally authorized navigation projects under the administration of the Philadelphia District, U.S. Army Corps of Engineers:

OPERATION AND MAINTENANCE PROGRAM

DELAWARE RIVER, PHILADELPHIA TO THE SEA

1. The President's FY '76 Budget contains no funds whatsoever for either Marcus Hook or Mantua Creek Anchorages; both are considered essential for safe navigation of the larger ships transiting on the Delaware River. We request that the following funds be added:

a. Marcus Hook Anchorage: Add \$6.5 million of which \$2.5 million will be needed for the 40-foot depth presently maintained by the Corps over a 1400-foot width; with the \$4 million balance used in restoring this anchorage to its fully authorized width dimension of 2300 feet.

b. Mantua Creek Anchorage: Add \$1.4 million in order to allow for continued maintenance of the existing dimensions of this anchorage. (See recommendation for additional monies as shown under CONSTRUCTION)

2. Add \$1.5 million for maintenance of the Delaware River Channel, Philadelphia to the Sea. In June 1975, Phase III of the rock removal contract for Marcus Hook Range will be completed improving the minimum depth of rock in that range from 35.6 feet to 41 feet. The employment of these additional funds for use in normal channel maintenance will serve to complement the achievements made in rock removal insuring that we finally have the 40-foot channel authorized by the Congress in 1938.

DELAWARE RIVER, PHILADELPHIA TO TRENTON

Add \$1,759,000 in maintenance funds in order to bring this funding to the minimum level considered necessary to sustain the more than 21 million tons of commerce which will have been carried over this portion of the Delaware River.

## SCHUYKILL RIVER

The \$539,000 budgeted for the T Quarter and the Fiscal Year will permit the Philadelphia District to perform maintenance dredging only in the 26-foot channel. We request that \$711,000 in additional funds be made available so that normal maintenance can be performed in the 33-foot section as well. The more than 18 million tons of waterborne commerce carried on this waterway annually comes principally from the 33-foot section.

## WILMINGTON HARBOR

Less than half the normal amount of funding for maintenance of Wilmington Harbor channel and turning basin appears in the Fiscal Year 1976 Budget. To sustain the 4 million tons of waterborne commerce transiting via these facilities annually, we urge that the additional amount of \$257,000 be added for this project.

## CONSTRUCTION PROGRAM

## DELAWARE RIVER, PHILADELPHIA TO THE SEA

In 1958 Congress authorized the construction of Mantua Creek Anchorage, 40-foot deep, 2300 feet wide and 11,500 feet long. This has never been constructed and is presently being maintained at a 37-foot depth, 1400 feet wide over its authorized length. In the interest of safety this anchorage is badly needed to its full dimensions and as a first step only, we urge that it be deepened to 40-foot over its existing dimensions, so that this portion will at least be compatible with our 40-foot Delaware River ship channel. To accomplish this will require \$2 million. We urge that this be approved.

## INTRODUCTORY REMARKS

My name is George Burnham. I am Vice-Chairman of the Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area.

The Joint Executive Committee, founded in 1888, serves as port-affairs spokesman for twenty-two separate organizations in the Delaware Valley Region, whose common interest is a viable port. Members' names appear on the letter-head page of this testimony and to save time I do not propose to name these other than to say that this membership includes Chambers of Commerce, Civic and Trade Associations, Quasi-Governmental Bodies, and an International Labor Union. The members pay no dues aside from nominal amounts needed to cover the Committee's administrative expenses, and the Officers serve without compensation.

## TESTIMONY

I have been asked by the members of the Joint Executive Committee to appear today on their behalf and to express to you the concern which they share upon noting the inadequate amounts which have been allocated in the President's 1976 Fiscal Year Budget for those federally authorized navigation projects which are administered by the Philadelphia District, U.S. Army Corps of Engineers. These projects sustain ports located adjacent to the Delaware River in Delaware, New Jersey and Pennsylvania, commonly called the Ports of Philadelphia. This complex is ranked as the leading United States port in terms of international waterborne commerce handled and ranks second in the Nation in total waterborne commerce.

Comparing the amounts in this Budget versus the needs we have to both maintain our port standing and to assure that the vessels which carry this huge volume of commerce can arrive and depart in reasonable safety, we find that if we are to meet these objectives that we must have \$14,127,000 added to this Budget.

Allow me if you will to refer now to the specific projects which require additional funding:

## DELAWARE RIVER, PHILADELPHIA TO THE SEA

We are distressed to find that the President's FY 1976 Budget contains no funding for the Marcus Hook or Mantua Creek Anchorages. Both were authorized under the Rivers and Harbors Act of 1958, principally for the safety which they

would provide to vessels transiting the Delaware River. Marcus Hook Anchorage was constructed to its authorized dimensions but was allowed to shoal and presently is being maintained to its authorized depth and length over a width of 1400 feet instead of at its 2300-foot authorized width.

Mantua Creek Anchorage has never been constructed to its authorized dimensions and is presently being maintained over its length to a width of only 1400 feet, instead of its project width of 2300 feet, and at a depth of 37 feet instead of its project depth of 40 feet.

If anything, there is far more need today for these fully constructed anchorages than there was when the projects were approved. Vessels using the Delaware River today are longer and beamier and many find it necessary to schedule their transit on a rising tide because of draft limitations.

These vessels cause us great concern because of the inadequacies of the two anchorages. Many are carrying energy related and hazardous cargoes in greater quantities than ever before. Most of the deep draft vessels can not use Mantua Creek Anchorage because it is being maintained at a depth which is incompatible with the greater depth of the channel. Because of width limitations at both Mantua Creek and Marcus Hook, the large vessels that do anchor swing through the channel on a change of tide or during a high wind, creating conditions of risk both to themselves and to vessels transiting in the ship channel.

Following the explosion of the ill-fated tanker ELIAS and the recent ramming of the docked tanker CORINTHOS by the EDGAR M. QUEENY in the Delaware River, both incidents resulting in a heavy loss of life, much has been said in the press and elsewhere suggesting a need for the establishment of speed limits for vessels on the Delaware River as well as suggestions aimed at increasing Coast Guard control over vessel movements. It has been determined that neither of these accidents could have been avoided by such measures. Knowledgeable ship people however are far more concerned about the threat to safety posed by the inadequacies of our Delaware River anchorages. We therefore urge that the following amounts be added to the President's Budget to prevent needless loss of lives, property and damage to the environment:

#### MARCUS HOOK ANCHORAGE—OPERATIONS AND MAINTENANCE

We request that an additional \$6.5 million be approved for use in restoring this anchorage to its full project dimensions. It is our understanding that \$2.5 million of this amount would be needed to maintain the existing 1400-foot width to authorized depth of 40 feet while the remaining 900-foot width in the shoaled area would require maintenance funds in the amount of \$4 million to deepen this to 40-foot project depth over its authorized length.

#### MANTUA CREEK ANCHORAGE—OPERATIONS AND MAINTENANCE

We request that \$1.4 million be added to the President's Budget for use in providing maintenance for the existing 1400-foot width at a depth of 37 feet over its authorized length.

#### CONSTRUCTION

Aware that its existing depth of 37 feet is inadequate for many of the deep draft vessels using the Delaware River, and aware that this depth does not provide compatibility with the 40-foot channel depth, as intended when the project was authorized, we ask that the Corps be directed to construct this anchorage to its authorized dimensions. As a first step, in Fiscal Year 1976, we ask the Congress to add \$2 million in construction funds needed to deepen the existing dimensions from 37 feet to 40 feet.

Aside from the lack of funding for anchorages in the Delaware River-Philadelphia to the Sea, we note that insufficient funds have been allocated to cover normal maintenance in the ship channel.

In June 1975, Phase III of the Delaware River rock removal program will have been completed, improving the minimum depth of rock found in Marcus Hook Range from 35.6 feet when this program began to 41 feet. For the first time since our 40-foot channel project was authorized in 1938 we indeed have the potential use of a fully maintained channel at its project depth. To not provide the Corps with sufficient funds to maintain the improved depth appears to be self-defeating, particularly in view of the many millions of dollars spent in the rock removal program in order to attain this objective.

Accordingly, we urge the Congress to upgrade funding for channel maintenance in the Delaware River-Philadelphia to the Sea, to full Corps' capability. To achieve this, we have been advised that \$1.5 million in O. & M. funding is necessary.



## DELAWARE RIVER, PHILADELPHIA TO TRENTON

More than 21 million tons of waterborne commerce are carried over this portion of our waterway annually. It is important to the port to be able to sustain such a high volume of commerce and which cannot be done without funding the project to the full Corps' capability. To accomplish this we ask that Congress add \$1,759,000 to the O. & M. portion of the President's budget in the interest of protecting this valued commerce.

## SCHUYLKILL RIVER

The \$539,000 which appears in the President's Budget is intended principally for use in maintaining the 26-foot portion of the Schuylkill River channel. According to the Philadelphia District Office, sufficient funds will remain only to initiate a contract for maintenance in the 33-foot channel. Inasmuch as the majority of the 18 million tons of annual waterborne commerce relates to the 33-foot section of the waterway, we consider it important that this section not be allowed to shoal up and accordingly we ask that \$711,000 in additional O. & M. funds be made available for this particular use.

## WILMINGTON HARBOR

Over 4 million tons of waterborne commerce is handled annually at the port of Wilmington. The normal expenditure to maintain Wilmington Harbor and its turning basin to sustain this volume of revenue is in the range of \$500,000 annually. The Budget provides a figure which is less than half this amount and in view of this we urge that \$257,000 be added in O. & M. funds for this project.

Concluding our remarks, we should mention our interest in the Channel Dimensions Study, Delaware River, Philadelphia to Trenton. A Resolution adopted 3 May 1962 by the Senate Committee on Public Works, has produced information which indicates the desirability of the Federal Government assuming maintenance of the vessel maneuvering area in front of Tioga Marine Terminal. Based on these findings, the Philadelphia District Engineer and the New York Division Engineer, U.S. Army Corps of Engineers have recommended that the Federal Government assume maintenance to a depth of 36 feet of the maneuvering area in front of the terminal including a turning basin of 1300 feet in diameter. The necessary local guarantees are being developed. We would urge that when this project is submitted to Congress that approval be granted so that the necessary work can proceed promptly.

Thank you very much.

Mr. HEYWARD. May I?

Mr. BIAGGI. Yes.

Mr. HEYWARD. In connection with the Corps of Engineers problem, does the Division Engineer take any position or are they limited by what they get from Washington?

Mr. JACKSON. They are limited by the money they get from Washington.

Mr. HEYWARD. I do not mean money; I mean policy decisions.

Mr. JACKSON. Oh, you mean priorities and this sort of thing?

Mr. HEYWARD. Yes; as far as improving the anchorages are concerned. Have the local engineers supported—

Mr. JACKSON. [interrupting]. They are very, very helpful. In fact, the testimony that is in here, we had a meeting with them and asked them what was their capability and what can we ask for within the range of their capabilities.

Mr. HEYWARD. How about the Chief of Engineers in Washington? Has he supported these particular projects and the Delaware River?

Mr. JACKSON. Yes; but we do not—

Mr. HEYWARD. [interrupting]. So it is a matter of money being authorized?

Mr. JACKSON. It is a matter of money being authorized and we have one project in particular that we have in common with Baltimore and that is the C. & D. Canal where we have an excellent benefit/cost

ratio and the completion of that is about 13 years behind time and now we are having trouble getting the dredging of the Chesapeake Bay so that we can both use it.

So this is something that we, if you can help us——

Mr. BIAGGI [interrupting]. May I see your testimony——

[Document handed to Mr. Biaggi.]

Mr. HEYWARD. This is all operations and maintenance?

Mr. JACKSON. That is right. This is broken down by operations and maintenance and it was within the budget figures.

Mr. HEYWARD. But it is generally authorized already under the law? All they need is to appropriate the funds.

Mr. JACKSON. That is right, to appropriate it.

Mr. BIAGGI. You made your point. Thank you, very much.

Anyone else desirous of testifying?

[No response.]

Mr. BIAGGI. There being none, we will adjourn the meeting and thank you very much, admiral, captain, gentlemen.

[Whereupon, at 3:53 p.m., the Subcommittee on Coast Guard and Navigation of the Committee on Merchant Marine and Fisheries was adjourned.]

## VESSEL TRAFFIC CONTROL

FRIDAY, OCTOBER 3, 1975

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON COAST GUARD AND  
NAVIGATION OF THE HOUSE COMMITTEE  
ON MERCHANT MARINE AND FISHERIES,  
*New Orleans, La.*

The subcommittee met, pursuant to call, at 1:30 p.m., in room 10, Rivergate Convention Center, Hon. Mario Biaggi, presiding:

Mr. BIAGGI. The meeting is called to order.

The Subcommittee on Coast Guard and Navigation is meeting here in New Orleans to deal with the vessel traffic system or service as it will be known in the future. I am delighted to be here and I am grateful for the hospitality that has been displayed, especially to Admiral Barrow and to the different gentlemen that have made our stay so pleasant so far. We have many demands for committee appearances throughout the country, but at the insistence of Congressman Treen and the gentlelady from New Orleans, Congresswoman Boggs, New Orleans was made first priority.

I would like to give Congressman David Treen the opportunity to make any remarks he would care to make.

Mr. TREEN. Thank you, Chairman Biaggi. They are not all my constituents here, but a lot of them are. I would like to claim them all. I want to thank you, Mr. Chairman, for selecting New Orleans as one of the places to have, and one of the priority places to have the hearing on this most important subject of vessel traffic. There is a lot that I need to learn about it and I hope not to display too much of my ignorance in the questioning today, but it is extremely important for this area, for the Port of New Orleans. The Intracoastal Waterway comes in here and leaves from here and, of course, this is a major port. We have had some problems in the recent years, especially during high water times with casualties and accidents. When we get siltation in the mouth of the river and get the high water, it makes it tough to control barges.

My office has had tremendous cooperation from Admiral Barrow and Colonel Rush, from the Corps of Engineers, and from others to try to alleviate the problem. I do think the vessel traffic system holds forth a great deal of promise for relieving some of the difficulties, but we want, as Members of Congress, to hear not only from government people who are involved, but from industry members today.

Just one last comment, Mr. Chairman. Some people may wonder why we have only two members of the committee here today. The reason—and I know that some of you are familiar with this—is that

there are so many demands and most Members of Congress are on a number of subcommittees. I am on six of them, three of them on the Merchant Marine and Fisheries Committee, and three others, and this is true of all of the members. Many of the committees are meeting in Washington, some for the purpose of reporting legislation, and that has kept a lot of the other Coast Guard Subcommittee members away. They will, of course, see the record and our staff is here so they can brief the other members of the subcommittee who are not here. But I did want to explain why we are a little bit short of membership today. It is because we are in session in Congress today. Sometimes we aren't on Friday, but we are today. That will also explain why I will miss a lot of votes today.

Thank you, Mr. Chairman.

Mr. BIAGGI. Thank you, Congressman Treen.

Before we commence, we will provide as much opportunity as possible for witnesses who are desirous of providing testimony. We have some scheduled, and I understand there have been some requests from others not on the schedule to have the opportunity to testify.

If time permits, we will do that. However, in the absence of available time, we will leave the record open, and with that I ask if there is any dissent that the record be left open for future submissions. Without objection, so ordered.

The Subcommittee on Coast Guard and Navigation is meeting this afternoon in this beautiful city of New Orleans as the third of a series of field visits and discussions with local officials and interested citizens related to the general problem of vessel safety in the various port areas and navigable waters of the United States.

At the beginning of the present Congress, one of the subjects which the subcommittee felt should be addressed, in carrying out its oversight responsibilities, is the promotion of the safe movement of vessels in our navigable waters. The increasing volume of waterborne traffic in the United States, as well as the expanding number of hazardous cargoes which move in waterborne commerce, make it particularly important that vessel traffic movements should be so undertaken as to guarantee as accident free a traffic system as it is reasonably possible to accomplish.

At the same time, I, individually, and I am sure, other members of the subcommittee are concerned that whatever systems of traffic supervision and control are developed, there should be the minimum amount of Federal interference to this vital segment of our national economy, and that in developing any type of control system, we should take care that we do not, in effect, sanction an overkill.

In early 1975 the Comptroller General submitted a report to the Congress which had been developed pursuant to the general auditing responsibilities of his office. That report was entitled, "Vessel Traffic Systems—What is Needed To Prevent and Reduce Vessel Accidents?" That report was particularly timely and although its recommendations may not result in total agreement, it has served to focus attention on the issues to be considered in evaluating this general problem. The subcommittee, therefore, decided to address the subject by making a series of field visits and acquiring personal familiarization with some

local problems and to hold a series of hearings which hopefully can shed some light on the proper course to take in the consideration of Coast Guard authorization for appropriations for future fiscal year budgets.

During the summer, the subcommittee visited the New York and Delaware River areas and received information on the problems peculiar to those areas. We found that those two visits were informative and helpful for our purposes.

This morning the members made a helicopter flight for the purpose of obtaining an overall impression of the Greater New Orleans Port Area. This afternoon we are meeting to receive a report from the Coast Guard outlining its views of the specific problems of vessel traffic in this area, together with a discussion of existing and potential Coast Guard plans for solving those problems and improving safety in vessel movements in the lower Mississippi River.

Following the Coast Guard presentation, the subcommittee will be happy to receive comments from local representatives who may be interested in expressing their views on the subject of traffic safety.

As to the witnesses, I would request that at the time they testify, they identify themselves and any organization which they represent, and I further request them to make sure that the reporter is informed of their proper mailing address so that their testimony may be forwarded to them for review before being printed as a part of the permanent record.

I will further ask the speaking witnesses to submit their prepared statements for inclusion in the record, and to address their remarks to the summary highlights of their statements. It would be helpful if they could speak on specific problem areas, such as the adequacy of the channel and aids to navigation, vessel movement reports, means of communications, speed and size of vessels, vessel speeds and maneuverability controls, and the monitoring of vessel movements.

Before proceeding to hear the first witness, I would like to state that the relatively small membership here today is not an indication of lack of interest by our subcommittee either in the overall problem or in the traffic problems of the New Orleans area. Unfortunately, several changes in the House schedule in the middle of the week shifted bills for floor consideration with which several other Members who had planned to attend today were directly involved. Those of us here also had difficulty in not being present in Washington today.

However, because the plans had been made and the witnesses in this area had taken the time to prepare their views for presentation, to us, and because we consider this subject one of major importance, not only to our subcommittee and our committee, but to the Congress and the Nation as a whole, we resolved not to cancel the hearing if we could possibly avoid doing so.

The first witness scheduled to appear was Rear Adm. Winford W. Barrow, but before we ask the admiral to testify, we would like to recognize a representative of the gentelady from New Orleans, Congresswoman Boggs, who has a statement she would like to read in the record.

**STATEMENT OF JAMES COBB, REPRESENTING HON. LINDY BOGGS,  
A REPRESENTATIVE IN CONGRESS FROM THE STATE OF  
LOUISIANA**

Mr. COBB. Mr. Chairman, Congressman Treen, members of the committee staff, in Mrs. Boggs' absence, she has asked me to read this statement to you all this morning.

I welcome the committee to the Second Congressional District and regret exceedingly that a markup session on an important committee bill precludes my ability to welcome you in person.

I am also sorry that I am unable to personally express my gratitude to the United States Coast Guard and its splendid officers and personnel who provide safe passage for the enormous amount of trade and commerce which is the life blood of our region's economic health. In addition, they are the beacon of help in the time of storms and floods which sometimes plague our area.

I should like to commend the Coast Guard specially for their prompt action and sustained vigilance to solve the problems of barges breaking from their moorings.

We are very proud to have the United States Coast Guard Eight District, commanded so ably by Rear Admiral W. W. Barrow, headquartered in New Orleans.

My thanks to the members of the committee and to all of the persons who have made the arrangements for the hearing and to all who will be testifying today.

Signed, Lindy (Mrs. Hale) Boggs, Representative, Second District, Louisiana.

Mr. Chairman, may your stay here today be informative and pleasant.

Mr. BIAGGI. Thank you very much. We will now hear from Rear Adm. W. W. Barrow, Commander, 8th Coast Guard District.

Admiral BARROW. Thank you, Mr. Chairman, Congressman Treen and members of the committee staff. I would like to ask the committee if they would like me to present the statement which I had prepared covering the Houston-Galveston vessel traffic service? I can enter that into the record without comment or comment very briefly on it, either one.

Mr. BIAGGI. We can enter the written statement into the record as it is and we suggest that you make whatever comments you might make about the highlights.

**STATEMENT BY REAR ADM. WINFORD W. BARROW, COMMANDER,  
8TH COAST GUARD DISTRICT**

Admiral BARROW. I will not read the statement. I am Rear Adm. Winford W. Barrow, Commander, 8th Coast Guard District.

I have a prepared statement on the Houston-Galveston vessel traffic system which, as you know, is a working system commenced by the Coast Guard in the Houston-Galveston area in February of this year.

Mr. TREEN. Would you move the microphone a little closer? I think some people in the back are having trouble hearing you.

Admiral BARROW. It is a pleasure for me to be able to make this presentation on the vessel traffic system in the Houston-Galveston area on behalf of the U.S. Coast Guard.

## HOUSTON-GALVESTON VESSEL TRAFFIC SYSTEM

On a per mile basis, few other waterways in the world can compare with the Houston-Galveston area in its potential for danger. Over 10 percent of the U.S. petroleum refining capacity and 20 percent of our petrochemical capacity are located here, with a resultant capital investment of over \$5 billion. Of the cargo shipped here (some 117 million short tons plus 20 million tons passing through on the Gulf Intracoastal Waterway in 1973), 70 percent falls into the category of "dangerous". Although we do not feel we can make a firm statistical projection, the risks present in this area indicate that a vessel casualty could be catastrophic to both population and industry.

In the Houston-Galveston watershed there are 533 square miles of water area, but less than 2 percent of this area is navigable by deep draft vessels with an additional 5 percent navigable by barge traffic. While most large port complexes have 1,000-foot-wide deep-draft channels, the channels width in this system are—

- 800 feet at entrance for 8 miles;
- 400 feet into Texas City for 6 miles;
- 300 feet into Texas City Inner Harbor for 1.5 miles;
- 400 feet into lower Port Houston for 35 miles;
- 300 feet into the new Bayport complex for 3.5 miles;
- 300 feet through Port Houston for 10 miles; and
- 250 feet to Port Houston Turning Basin for 1 mile.

Where shore facilities are located, there is another 100–200 feet of additional width available. There are five turning basins plus another seven locations where vessels can be turned. At each of these the entire channel is blocked during the maneuver. Most barge marshalling is in the channel or on the channel edges.

More than 7,000 ships and 15,000 tows entered these very restrictive channels plus more than 10,000 tows crossed through on the Gulf Intracoastal Waterway in 1973. To add a little more complexity to this situation, there are 70,000 crossings by ferries at 2 locations every year.

When the Port of Houston was christened from the deck of the Revenue Cutter *Windom* in 1914, no one could have imagined the tremendous growth in this area. But with the same channels as in the 1930's, vessel sizes have steadily increased. In 1960, the Houston Pilots Association set up special rules, including mostly daytime passage only, for handling ships over 20,000 gross tons. They further stated "No vessel above 30,000 tons has called on the Port of Houston and any vessel above that tonnage would require special consideration." Vessels up to 40,000 gross tons now call routinely in Houston, day and night, with two way traffic in the channel. We have ships almost 900 feet long and 125 feet wide routinely traversing these channels. We have tows over 1,200 feet long and 100 feet wide routinely using the area.

## DEVELOPMENT OF THE VESSEL TRAFFIC SYSTEM (VTS)

In 1971, Coast Guard Headquarters began preliminary planning for the Houston-Galveston VTS, predicated on the probability that Congress would require greater navigational safety in our waters. With passage of the Ports and Waterways Safety Act of 1972, the mandate was clear and planning proceeded in earnest on all levels, headquarters, district and local. A group of local representatives of the maritime

community was appointed in June of 1972 to advise the Coast Guard on first, whether or not a VTS was desirable for this area, and second, if so, what equipment, operating procedures and personnel training would be required. This advisory group continues to monitor the VTS and advise for the future.

Throughout 1972 and 1973, radar communications, and closed circuit television surveys were taken, while planning got more specific. Construction was started early in 1974 and the system became operational on February 1, 1975.

Unfortunately the communications surveys which had shown that channel 13 VHF-FM could support both bridge-to-bridge and VTS communications soon proved to be faulty. Because of this difficulty, in March 1975 we changed operations to use another frequency for VTS. For those vessels with channel 12 capability, we now call on channel 13 and shift to channel 12 for working messages. Additionally, our efforts to "clean up" channel 13 have continued and produced noticeable results. Virtually everyone acknowledges that channel 13 is used more properly now than was the case before VTS came along. It is, therefore, much more available for what Congress intended it to be.

Relatively early in the development of VTS it was decided that electronic surveillance coverage of the VTS area would be necessary, principally to confirm vessel movement reports. For instance, in other areas the Coast Guard has found that vessel masters often hedge their ETA's at critical points so that they can get through first. In channels as narrow as those as the Houston Ship Channel, there are many such critical points. Of even greater concern to the users or operator of the system is the non-participator, whether he be an exempt vessel or one with inoperative radios. Surprises are definitely not welcome in the VTS area.

Houston-Galveston VTS now has total communications coverage through three VHF-FM sites. There are 17 miles of low level light closed-circuit television coverage through some of the hazardous parts of the upper Houston Ship Channel.

There are three significant developments in the immediate future of this VTS. First, is the installation of a computerized tracking system to replace our locally designed and constructed board. This new system will be far more accurate and timely, and will have additional capabilities, such as determination of time and place of all meetings, overtakings, etc. These capabilities must be available before we could incorporate proposed limitations on vessel sizes in all the various reaches of the channel. This system is due to be installed by next summer.

Next will be a radar at Galveston. This will give positive surveillance over all of Galveston Bay, including Galveston and Texas City harbors, the Gulf Intracoastal Waterway and the Bolivar Roads mixing area, plus the approach from sea. Installation is scheduled for the end of 1976, and is eagerly awaited by all components of the maritime community.

Finally, there will be a mandatory VTS, probably with some limitations on vessel sizes and operating conditions imposed. This sounds terribly controversial, but in fact is not. The advisory group has already recommended specific limitations on the conditions under



which both large ships and large tows can navigate without prior arrangement. Everyone here agrees that limitations are necessary; the only real controversy is over the specific break-off points.

#### VTS OPERATIONS

Present VTS operations consist of gathering information about vessel transits, channel conditions, aids to navigation discrepancies, and weather and then passing that information back to the navigator to help him best plan his own trip.

If we see unusual congestion building or are aware of channel blockage, we may make specific recommendations to slow, stop, or remain moored until the situation improves. Under no circumstances do we, or will we in the future, attempt to navigate vessels from shoreside.

In our first 6 months of operation we logged more than 6,500 large vessels and 32,000 tows transiting the system. As indicated by the percentage of vessels participating, acceptance by the marine industry seems to be nothing short of phenomenal.

In addition to operation of the Vessel Traffic Center, we look at associated problems. For example, we have gotten a private hazard to navigation properly marked. Before this, about two tows per month hit bottom; since, no one has hit bottom at that location. We investigate every proposed new facility with an eye toward the impact on navigational safety. We have successfully campaigned to make lightering operations less hazardous. We are into many other problems and will continue to pursue them to an acceptable conclusion.

We can verify a few cases where VTS has prevented a specific accident from happening. Statistics indicate that there are other, less provable, cases. As an example, this September VTS routed traffic in the Houston Ship Channel when a major fire at the Space Age Plastics plant forced the shutdown of the channel, followed by its opening to one way traffic before its reopening to normal traffic. Overall, shipping is up slightly, accidents are down somewhat.

#### SUMMARY

It is the opinion of the VTS personnel and the expressed opinion of the users of the Houston-Galveston VTS that we are performing a useful function and that we are meeting the need for a reasonable and cost-effective means towards reducing the probability of a major catastrophe in the Houston-Galveston area, thus fulfilling the requirements of the Ports and Waterways Safety Act.

Mr. BIAGGI. In the comparable period before the new system became operational, what was the relationship in accidents in Houston and Galveston?

Admiral BARROW. I think it is probably a little early to tell with regard to statistics how well we are doing. We can verify several cases where the vessel traffic service system has prevented a specific accident from happening. As an example, in September the vessel traffic system routed traffic in the Houston Ship Channel when a major fire at the Space Age Plastic Plant forced a shutdown of the channel, followed by its opening to one-way traffic before its reopening to normal traffic. This is an example of the use of the system over there.

Overall shipping is up slightly and accidents are down somewhat. I can't give you the precise details of this at this time. I think it is a little bit early.

Mr. BIAGGI. When did you say it was operational?

Admiral BARROW. In February of this year.

Mr. BIAGGI. How far along are you on installing that system in the New Orleans area?

Admiral BARROW. The New Orleans vessel traffic system is supposed to be initiated in early 1977. We were originally scheduled to start it in the fall of 1976, but we are behind in some respects.

Mr. BIAGGI. When will that voluntary system in Houston become mandatory?

Admiral BARROW. The regulations for the system in Houston-Galveston are about fourth in the priority of producing in notice form. I would say it probably is perhaps 9 months to 1 year away.

Mr. BIAGGI. Dave, do you have any questions on Houston?

Mr. TREEN. On Houston, no.

Mr. BIAGGI. Would you like to talk to New Orleans now?

Admiral BARROW. Thank you, Mr. Chairman. With your permission, I will proceed to the New Orleans vessel traffic system.

#### **STATEMENT BY REAR ADM. W. W. BARROW ON NEW ORLEANS VESSEL TRAFFIC SYSTEMS**

Admiral BARROW. The purpose of my presentation today is primarily to acquaint you with the proposed New Orleans vessel traffic system; its background, current status, and expected operational features and capabilities.

#### **BACKGROUND**

The Ports and Waterways Safety Act of 1972 gave the Department of Transportation the authority for the development, administration, and operation of vessel traffic systems in U.S. ports, harbors, and other waters subject to congested vessel traffic, and designated the U.S. Coast Guard as the agency responsible for the implementation and enforcement of the act.

Prior to the passage of the act, but in anticipation of its passage, the Coast Guard launched an intensive study of vessel traffic system needs. Based on the issues to be resolved the major objectives of this study as noted in volume 1—Executive Summary (final report) were to:

- (1) Identify specific VTS goals, anticipated benefits, and alternatives.
- (2) Analyze the potential VTS roles of Federal, State, local authorities, and private enterprise; and recommend the most beneficial role for the Coast Guard.
- (3) Analyze the quantitative and qualitative factors to be considered in the determination of the needs for various levels of VTS in the U.S. ports.
- (4) Prepare short and long staffing and funding plans.
- (5) Prepare a management plan to use as a guide in planning, development, and implementing new systems.

The results of the study were published in March 1973 in four rather lengthy volumes, and was followed in August 1973 by a report entitled, "Vessel Traffic Systems—Analysis of Port Needs." This latter report is the summation of an analysis of port needs for vessel traffic systems throughout the United States. The output of this analysis is a listing of ports and waterways in the order in which their needs should be addressed, and contains initial recommendations concerning the level of need in each area. The date used in this analysis was from years 1969 to 1972. Based on this analysis, New Orleans ranked No. 1 in deaths and injuries caused by collisions, rammings, and groundings, and ranked No. 2 in dollars damage and pollution. Baton Rouge ranked No. 14 in death and injuries, and ranked No. 11 and No. 9 in damages and pollution respectively. These standings are relative to the 22 top ranking U.S. ports. More recently in June of this year, Operations Research, Inc.,—ORI—under a contract awarded by the U.S. Coast Guard's Office of Research and Development completed its study on vessel traffic and communications in and around the Port of New Orleans. This study attempted to determine the average as well as peak density of vessel movement as well as communications on channel 13 at five selected sites on the river from Venice to Port Allen. This publication will be of value in attempting to determine traffic and communications load that may be encountered in the different sectors.

#### INTRODUCTION

Before going into details on the proposed New Orleans Vessel Traffic System, there are certain features about the lower Mississippi River including the Ports of New Orleans and Baton Rouge which make it unique from other ports or inland waters and I will touch briefly on some of these:

(1) The Port of New Orleans, which is the first major port on the Mississippi River from seaward, lies approximately 120 miles upriver from the entrance. This entails a long river run for all vessels with a very definite transition from high seas piloting to river piloting and vice versa. Additionally, it is impossible for a vessel to duck in or duck out of port during short periods of clearing under foggy conditions. Thus either an upbound or a downbound vessel may encounter fog or reduced visibility at any location in the river and be forced to reduce speed, stop, or anchor at a most inopportune time.

(2) The lower Mississippi River, which is the outfall for one of the largest river complexes in the world, is subject so severe silting and shoaling condition which may change almost from day to day. Additionally, the lower Mississippi River is subject to a yearly high water condition which contributes greatly to these silting and shoaling conditions. This makes transits of certain portions of the river extremely hazardous under certain conditions and these hazards may be aggravated by chance vessel meeting situations encountered under less than ideal situations.

(3) The lower Mississippi River is not a nice straight run but rather has numerous sharp twists and bends as well as a considerable current at all times. This combination of factors does not lend itself to easy piloting, nor is it conducive to an orderly flow of upbound and downbound traffic with all vessels keeping to the right in compliance

with the Inland Rules of the Road which are applicable as far up as the Huey P. Long Bridge just north of New Orleans. The point and bend system of necessity has been adopted through common usage, all the way to the river entrance. This creates the problem that the crossover point is different under different conditions of the river as well as for each type of vessel. With the numerous bends that exist in the lower Mississippi River, the definite potential exists for upbound and downbound vessels to suddenly meet in an embarrassing situation with both vessels attempting to crossover in the same area at the same time with no clear-cut port-to-port or starboard-to-starboard passing indicated.

(4) The most notable feature of the traffic on the lower Mississippi River is the great variety and mix in size and type of vessels. These include deep draft general cargo, bulk cargo, and tankers engaged in foreign and coastal trade; medium draft vessels of the same type engaged in river trade; an enormous amount of river as well as ocean-going barges carrying everything from general cargo to dangerous and hazardous cargos; towboats and tugboats of every size, horsepower, and description; ferryboats which cross in numerous locations; excursion boats in the New Orleans area; crew boats, supply boats, and mudluggers which service the offshore oil facilities; a fleet of fishing boats engaged in numerous types of fishing; public vessels of various types; and last but not least a small but increasing number of recreational boats. This vast mix of vessels with their equally vast diversity of interests produces a complex problem in maintaining an orderly flow of traffic in the river.

(5) The lower Mississippi River south of Baton Rouge has numerous arteries in the form of locks and canals connecting with the ICW as well as other waterways, thus adding to the complexity of maintaining an orderly flow of traffic in the river.

(6) The lower Mississippi River is subject to a seasonal fog condition. The spring fog generally comes at the same time as high water which is caused by the spring thaw and runoff. The mixing of the cold river water with the warm air from the Gulf of Mexico produces a convection type of ground fog primarily at the entrance to the Mississippi River in the area of the Head of Passes. This shutout fog can be very persistent, due to the static nature of these two influences, and has lasted as long as a week during which time no vessels could transit the river entrance in either direction. When this fog exists for any duration of time, vessels tend to stack up on both sides of the fog awaiting passage, resulting in a heavy congestion of anchored vessels. When the fog does lift, all vessels attempt to move at once in both directions, resulting in a potentially dangerous situation.

(7) The last factor I should make mention of is the large volume of traffic on the lower Mississippi River. The Port of New Orleans boasts of being the second largest port in the United States after New York. The Port of Baton Rouge ranks seventh.

As can be readily imagined any one or a combination of the above factors can produce a potentially hazardous situation of the Lower Mississippi River.

#### STATISTICS

The New Orleans Vessel Traffic System (VTS) area consists of approximately 243 miles of river which is mostly continuous curves and blind bends, as well as the Mississippi River gulf outlet (MRGO).

There are 15 major entry points into the system such as locks and canals from the ICW and other waterways. Traffic counts indicate approximately 270,000 annual transits of the system or an average of almost 750 a day, with peak loads far exceeding the average. Approximately one-third of the traffic consists of tanker and tank barges transporting 140 million tons of petroleum and chemical products. In addition to the over 76,000 towboats, and between 6,000 and 7,000 deep draft ships entering and departing the area annually, the following classes of vessels greatly contribute to the complexity of a potential vessel traffic system:

(1) Approximately 500 crewboats operating in and around the area primarily engaged in carrying personnel to the over 1000 offshore oil structures in the area.

(2) Approximately 25 mudluggers operating in and around the area primarily in support of the offshore oil industry.

(3) Approximately 35 supply boats operating in and around the area also in support of the off shore oil industry.

(4) Thirteen scheduled ferry crossings which make several hundred thousand river crossings per year.

(5) Seven major excursion boats in the New Orleans area which carry hundreds of sightseers daily through New Orleans Harbor.

(6) A variety of public vessels including the U.S. Navy, the Corps of Engineers, and police and fire boats.

It is interesting to note that most of the above classes of vessels are not subject to the Bridge-to-Bridge Radiotelephone Act.

#### DESCRIPTION OF THE NEW ORLEANS VESSEL TRAFFIC SYSTEM

The purpose of the New Orleans Vessel Traffic System is to enhance maritime safety and facilitate vessel movement by acting as a central maritime information collection and dissemination agency through use of a VHF-FM communications network, aided by a computerized realtime automated data system that will provide the VTS watchstander with predicted vessel movement, position, and navigational information. In addition to the regulations, the New Orleans system will consist of a vessel traffic center, a communications network, and limited surveillance in selected areas.

The Geographical System will be divided into four operational sectors as follows:

(a) Sector I—From the entrance to South Pass and Southwest Pass north along the Mississippi River to mile 75 Above Head of Passes (AHP). Also the Mississippi River Gulf Outlet (MRGO) from the entrance (approx. 29-25.4N, 88-59.5W) to the Inner-Harbor Navigational Canal lock where it joins the Mississippi River.

(b) Sector II—Mississippi River from mile 75 AHP to the Huey P. Long Bridge.

(c) Sector III—Mississippi River from the Huey P. Long Bridge to mile 159 AHP.

(d) Sector IV—Mississippi River from mile 159 AHP to mile 243 AHP.

Each operational sector will have a designated sector frequency upon which all VTS communications within that sector will be passed between the VTC and the vessel. VHF-FM channels 11, 12, and 14 have been designated as VTS frequencies, but channels 12 and 14

will be shared with the U.S. Army Corps of Engineers for lock operations as well as bridge and canal communications.

There will be sufficient transmitter/receiver sites located throughout the system to provide individual sector communications coverage within the sectors with minimum interference with any communications in adjoining sectors or other sectors having the same working frequency. The VTS will utilize directional antennae to minimize interference between different sectors operating on the same channel.

The New Orleans vessel traffic system, when operational, will control the traffic lights now maintained by the Corps of Engineers. The traffic lights will be in operation year round and will be manned by Coast Guard personnel. Initially the area covered by the traffic lights will be the only area within the New Orleans system with surveillance. After the installation of low level light closed circuit television in the vicinity of Algiers Point, the manned watch at the traffic lights will be discontinued after a period of familiarization.

#### HOW THE SYSTEM WILL OPERATE

Theoretically, the ideal vessel traffic system would be one in which every vessel would be protected against marine casualties resulting from collisions, rammings and groundings at all times and yet would be permitted complete freedom in the use of the waterways. Further, from the user's standpoint, the ideal vessel traffic system would permit a vessel to depart when desired and move to its destination without delay or interference from other vessels. The user's equipment would be only that which reflects his own individual needs.

In reality, absolutely free transit of the waters within the New Orleans vessel traffic system will not be possible at all times due to the conflicting demands of the many users who travel within extremely small navigable areas compared to vessel size and maneuverability. Under these restricted conditions, the incidence of more than one vessel needing and attempting to use a given portion of the waterway at the same time is much higher than in areas, such as the open sea, where space is not a limitation.

In phase one, the New Orleans VTS will function basically as a navigation data gathering and disseminating system through the use of a communications network utilizing VHF-FM channels 11, 12, and 14. In order for the system to serve its intended purpose, it must be a mandatory participation system. If not, those vessels not participating can and will become hazards because of the false sense of security assumed by those vessels that are participating. A mandatory participation system will require a listening watch on the sector frequency in addition to those now being guarded. Under existing regulations and the proposed draft regulations for VTS New Orleans, most vessels would be required to guard —when not transmitting— three channels: 13, 16, and VTS sector frequency. This mandatory sector guard is necessary in order to insure to the greatest extent possible a clear frequency for the VTC to pass navigational information to the user and to advise him of potential dangers or hazards ahead of which he might not otherwise be aware. This procedure allows the operator of the vessel to exercise his own discretion and coordinate his passing with other vessels on channel 13. When a hazardous situation is developing, all vessels destined for that area

will be advised. The prudent operator will take the information of a developing hazardous situation, evaluate it and take timely action to avoid it, such as slow down, stop in a safe area, or depending on the potential situation he may wish to anchor. If everything worked in the desired manner, there would be no need for a vessel traffic system. Statistics show, however, that this is not the real situation. Therefore, in extreme cases, it may become necessary for the vessel traffic center to direct a vessel to take positive action to avoid a potentially hazardous situation in which the presence of his vessel would only add to the hazard on congestion.

This direction by the VTC may take the form of advising the vessel to slow, remain moored or anchored, or possibly to anchor as soon as conditions permit. Again, this would only be done in extreme cases when there is no alternative, and then only when the vessel does not take appropriate action on his own initiative in a timely manner. It must be clearly understood that the responsibility for the safety of any vessel and its crew remains with the captain or master and cannot and will not be assumed by the VTC. The proposed draft regulations for the vessel traffic system New Orleans as well as the published regulations for the mandatory compliance system presently established in Puget Sound do, however, contain authority to deviate from any direction in an emergency, to the extent necessary to avoid endangering persons, property, or the environment. Obviously any deviation from a direction issued by the VTC that resulted in a casualty would have to be strongly justified and the burden of proof would have to be borne by the vessel. In a similar manner, any direction issued by the vessel traffic center that resulted in a casualty or other mishap would have to be strongly justified and the burden of proof would be borne by the Coast Guard.

Under normal conditions a properly functioning VTS would prevent hazardous conditions from occurring by recognizing them in advance. However, certain situations will occur which no human effort could avoid. To mention a few, unpredicted localized fog conditions, vessel loss of control or power, breakaway barges, localized squalls or heavy weather, or possibly an explosion or burning vessel caused by something other than a collision, ramming or grounding. Under unusual circumstances such as these the VTC would obviously have to take a direct control of the situation to minimize present damage as well as to prevent additional damage. A VTC in a situation such as those cited above would be exercising an authority much the same as the COTP now exercises under the Magnuson Act.

#### ELEMENTS OF VTS NEW ORLEANS

Having thus described the proposed operation of the vessel traffic system in New Orleans in very general terms, allow me to address specific areas in which the vessel traffic system may improve the overall safety of shipping relative to the unique features of the lower Mississippi River which I previously enumerated:

(1) *Long river transit.*—As noted previously the Port of New Orleans is a considerable distance up river from the mouth and vessels are subject to encounter fog in any section of the river. Initial reports of fog from en route ships would be reported to the VTC which in turn

would pass such information to other vessels approaching the area and allow them to better determine an appropriate course of action. Additionally the VTC would queue vessels so that they might meet in the more favorable areas of the river, or would impose one way traffic in restricted areas. Lacking surveillance or continuous reports from all along the river, this would be about the extent of the vessel traffic system's participation during periods of short duration fog in isolated sections of the river.

(2) *Shoaling and silting*.—Changes in the bottom contour resulting from shoaling and silting are continuously taking place but are aggravated during the spring high water. Chance meetings obviously can be eliminated by a vessel traffic system. When due to conditions of high water and increased current navigation in certain shoal areas becomes hazardous, vessels will again be queued and one way traffic imposed if necessary. A maximum draft limitation based upon the most current information available could also be imposed to meet temporary shoaling conditions.

(3) *Navigating the bends*.—If the Lower Mississippi River were a relatively straight run, it would be possible to establish a traffic separation scheme with all traffic remaining to the right of a separation zone similar to the system in Puget Sound. Such is not the case, however, and a potential hazard exists as vessels cross over in seeking the point or bend as appropriate. Again the vessel traffic system by queuing vessels to meet either above or below the ambiguous area for crossing over, where a port to port or starboard to starboard passing is more clearly indicated, will help to alleviate this hazardous condition. The situation at Algiers Point in New Orleans Harbor is so potentially dangerous that the U.S. Army Corps of Engineers has seen fit to enforce one-way traffic around this point during periods of high water through the use of traffic lights. These traffic lights have been in operation for over 20 years and are well liked by the maritime users. Additionally, local efforts have pushed to have these traffic lights operated year round. A vessel traffic system exercising positive control in the form of the continued operation of these traffic lights is obviously indicated and is included in the Coast Guard's proposal. Examination of certain other areas in which imposed one-way traffic may be appropriate as recommended in "Vessel Traffic Systems—Analysis of Port Needs," is still under evaluation. By queuing vessels and imposing one-way traffic regulations where necessary, the hazards associated with the sharp twists and bends in the river can be greatly reduced.

(4) *Variety of river traffic*.—The vast mix of river traffic with its varied interests is an area of great concern in attempting to maintain an orderly flow of traffic. On the one hand, mandatory participation of all vessels in certain areas is impractical and would cause a communications saturation. Discussions with local marine interests are still underway in an effort to determine the optimum level of mandatory participation in areas of high traffic density. One problem area exists at the entrance to the river with the literally hundreds of crew boats, supply boats, and mudluggers operating in support of the offshore oil industry. Another problem area exists with boats engaged in fleeting operations which may or may not pose a potential hazard to other traffic while engaged in fleeting operations. These two areas as related to the vessel traffic system in New Orleans are not yet totally resolved but will receive the Coast Guard's most careful consideration.



(5) *River junctions.*—As noted above there are no less than 15 arteries in the form of locks and canals which join the Lower Mississippi River with other inland waterways. Delays of 24–36 hours at the Inner Harbor Industrial Canal are sometimes experienced resulting in traffic backing up. A vessel traffic system could advise all vessels upon their entry into the system of what the expected delay at any given lock would be at any time based upon the computer output. Based upon this estimate a vessel might find it advantageous to alter its original intended plan. Increases or decreases in speed of vessels might also be recommended so as to provide a more even flow of traffic when approaching the canals and locks. Some form of landline communication between the VTC and each of the locks is also being investigated, as a means of reducing the radio communications load on channels 12, 13, and 14. A direct coordination between the Corps of Engineers lock operators and the VTC could result in a queuing of vessels into a more desirable sequence so that a combination of vessels could more efficiently utilize the lock space. The overall congestion caused by vessels entering and leaving the main flow of traffic in the river can thus be reduced to some degree by the vessel traffic system.

(6) *Extended periods of fog.*—The potential role of the Vessel Traffic System is perhaps as great in dealing with this situation as with any other. Even lacking radar surveillance the vessel traffic system will be able to receive reports of fog from vessels anywhere in the system and advise other vessels who will enter that sector of the reported condition, in a manner similar to the reports made by aircraft pilots (PIREPS). This advance information will probably cause a small percentage of vessels to alter their proposed plans and reduce some congestion. During the enroute stage of piloting in fog, while a vessel still has sufficient visibility to comply with article 16 of the inland rules (speed in fog), the vessel traffic system will once again be able to queue traffic so that vessels may meet and pass in the most favorable areas, or impose one-way traffic in restricted areas. During extended periods of “shut-out” fog at the entrance to the river, as delayed traffic builds up and the anchorage becomes crowded, the VTC may prohibit additional vessels from getting underway enroute this area when additional suitable anchorage is no longer available. In this way the congestion in the anchorage may be limited so that when the fog lifts the hazards of vessels attempting to get underway up and down the river will be reduced. The VTC will also be able to direct the order in which vessels weigh anchor and get underway to prevent a “free-for-all” situation. This same procedure is also applicable to extended periods of fog encountered elsewhere in the river.

(7) *Large volume of traffic.*—The large volume of traffic transiting the Lower Mississippi River is one of the basic factors which mandate the establishment of the vessel traffic system in New Orleans. With only one vessel present in an area, the potential for a collision or a ramming to occur is zero. With the addition of each subsequent vessel the potential for collisions or rammings increases in some mathematical progression. It is to the problem of attempting to organize and coordinate vessel movements that the vessel traffic system addresses itself. The groundings of a vessel except as a result of being crowded by another vessel, is considered to be generally unavoidable by a vessel traffic system and there should be little impact on the number of grounding incidents.

## SUMMARY

The New Orleans vessel traffic system will be an operational system with built-in elements of regulations, communications and surveillance that will function as an aid to the mariner by gathering and disseminating navigational information vital to his need. The greater portion of the time, appropriate action will be taken by the operator upon receipt of advisory information from the VTC pertaining to future situations which he may expect to encounter. Only in unusual cases will the VTC authority to direct a vessel to take a particular course of action be exercised and then only to the extent that the course of action itself will not create a dangerous or hazardous situation. This directed action will be limited to stop (when and where conditions permit), slow, anchor, remain at anchor or berth, or specifying times when a vessel may enter the system. Never will rudder commands, courses or actual maneuvering commands be given. The responsibility for the safety of any vessel remains with the master or captain, regardless of any VTC direction.

That concludes my statement, Mr. Chairman. I have with me several people in the room who with me will attempt to answer any questions which you might have for us. Commander Oberholtzer who is the project officer in the district staff and Commander Boyce who is the CO of the vessel traffic center.

Mr. BIAGGI. Thank you very much, Admiral. There are a number of questions. In the light of numerous accidents we have had in the New Orleans port area, how do you account for not having the system installed at an earlier date?

Admiral BARROW. The emphasis on vessel traffic systems throughout this country commenced somewhere around the 1970-71 timeframe. In fact, this system was one of the first ones studied during that time period, before the Ports and Waterways Safety Act which specifically authorized the establishment of vessel traffic systems. We had in this country some very minor systems in effect, but the Ports and Waterways Safety Act was the first positive direction to create vessel traffic systems, and this system was initiated at that time, at least the planning for it.

Mr. BIAGGI. I had the advantage of the overflight this morning and looking at the maps and viewing the condition myself. It became apparent there are quite a number of potentially serious trouble spots along the river, the very winding nature of it, and I am sure that in some of those areas ship captains are operating almost blindly, but one of the outstanding potentials for the difficulties was the arteries coming into the river. What devices or precautions or procedures do you have for their safe entry into the river?

Admiral BARROW. In each of those arteries which come into the system, the entry point, or before you arrive at the entry point, a reporting point will be established for the vessels to report into the system and they will be able to proceed only after getting a rundown on the traffic which will be in that specific sector which would affect their particular operation.

Mr. BIAGGI. You say, "will be established." What do you have there now?

Admiral BARROW. We have no system at all now covering this.

Mr. BIAGGI. During the same flight I observed barge fleeting at the same point in the river on both sides that seemed to narrow the free water as far as the ships are concerned. Do you have restrictions as to whether or not—don't you think you should have restrictions or some regulations that would eliminate that practice?

Admiral BARROW. I think the point that you are referring to probably was at the Mississippi River-gulf outlet. I don't believe those are fleeting areas, but there are barges which do tie up on both sides. It is an area that we could look at. So far as I have been able to determine, we have had no complaints about the traffic flow in that particular area or the barges building up on either side of the waterway causing any difficulty, but I will agree that on very narrow waterways where you do have ships on either side plus in some cases fueling operations going on outboard of that, there is a potential problem.

Mr. BIAGGI. We were in a position to witness the anchorage where dangerous cargo ships were moored. Would you tell this committee what special procedure or precaution is taken in connection with any dangerous cargo vessel?

Admiral BARROW. Yes, sir. One of the elements in the reporting process into the vessel traffic system is to indentify any hazardous cargo which is aboard. This information will be entered into the computer and will be available for use of the operator to pass onto other users of the waterways. We will know at all times within the system what vessels have hazardous cargoes on board.

Mr. BIAGGI. Well, I asked you this question earlier and in my own judgment I don't think that the potential that the dangerous cargo bears is sufficiently met by simply passing along information. In the New York area we have some transportation of liquefied natural gas and, obviously it is a very potentially dangerous situation and the community is upset about it because of the potential danger. The admiral in that area has established a special procedure to deal with that. Now, sometimes a ship gets out of control for one reason or another and there could be a collision, an accident, explosion, and I don't think that the simple procedure of information passing or transmission would be adequate for that eventuality.

Admiral BARROW. Excuse me, sir. There are other things, of course, that through the vessel traffic system are possible and not specifically tied to the hazardous cargo, although many many of the ships that pass through this area will be ships that carry hazardous cargo of one nature or the other. I think inherent in the system of knowing what you have is the capability to do other things with regard to having ships not meet at specific points which are going to cause you problems.

I think you have indicated quite correctly the number of blind curves in the river where it is possible, knowing the ships, to be able to recommend to a vessel that they take such action as necessary so they will not meet at dangerous points in the river, and this is something that we can do.

Mr. BIAGGI. Congressman Treen.

Mr. TREEN. Admiral, what mechanisms have you used, either you or your predecessor, for getting industry input into the development of the vessel traffic system in this area?

Admiral BARROW. In this specific area we have not had established a vessel traffic system advisory group; advisory committee. In the Houston-Galveston area in 1971 or 1972, an ad hoc advisory group was set up. That was not done here.

Mr. TREEN. Was it helpful in Houston to have that group?

Admiral BARROW. I think very much so.

Mr. TREEN. Can you tell me why that wasn't done here?

Admiral BARROW. I don't believe I can answer your question on the initial stages, the 1971 or 1972 time frame. An advisory committee was asked for in late 1973 or early 1974, as my memory serves me. That coincided with a period in which there was a concern in the Government over the proliferation of advisory committees, and the judgment of Coast Guard Headquarters at that time, and this was early 1974, was that a formal advisory group was not necessary to the development of this specific system.

I can't speak for that particular judgment. The judgment was made and this is not to say that there was no consultation. I think there has been since this system was first started, consultation individually and collectively with the people in the industry in this area. There was at the outset of the study process for vessel traffic systems as a whole a symposium to which people from New Orleans came. There has been published in the Federal Register a draft of environmental impact statement covering the system as well as a final environmental impact statement covering the system with very little comment.

So I think there has been some consultation. Personally I think that we would have fared better to have had an earlier input in a more formal way.

Mr. TREEN. Are you saying then quite frankly that you disagree with the policy established at the headquarters?

Admiral BARROW. I think that a committee would have been useful.

Mr. TREEN. I don't have a copy of the act, I have sent for a copy of the act and maybe counsel can help me on this.

If I can't find it right away, I will come back to this point. Of course, the establishment of regulations is subject to the Administrative Practices Act, which calls for publication in the Federal Register, and so forth, but the feeling I get from the act is that there should be a mechanism for input by industry. I would just think—and I am not an expert at all in this area—that that is the most important thing. The act provides:

In carrying out the duties and responsibilities under this title, to promote the safe and efficient conduct of maritime commerce, the Secretary shall consider fully a wide variety of interests which may be affected by the exercising of his authority hereunder.

Is there anything in here specifically about a committee?

Mr. OLNEY. No.

Mr. TREEN. Well, it appears to be the flavor or the tone of the legislation, that we must get input from all of the interests involved and I would hope that (I realize that you are bound by policy made elsewhere), but I hope that we would have a regular means of input. I assume your consultation has been on a random basis, Admiral?

Admiral BARROW. Yes, sir. I would not want to leave the impression that this has been minimal, I don't think it has been minimal, I think it has been substantial consultation. The difference is in the format of the advice, whereas the system that was used in Houston-Galveston was a more formal process with the group sitting around the table and discussing the system and its operational requirements, as opposed to this one.

Mr. TREEN. You did feel that was helpful?

Admiral BARROW. Oh, I don't think there is any question.

Mr. TREEN. And you would agree it would be helpful in this area?

Admiral BARROW. Well, I go on from this point to say that the package that has been developed was given by me to the Port Safety Advisory Committee in New Orleans and they have been reviewing the package that we have and are due to come up with comments on it to me at some time, I believe, during this month.

Mr. TREEN. We have a representative of the Port Safety Advisory Committee here?

Admiral BARROW. Yes, sir.

Mr. TREEN. What costs will be incurred by the industry, that is, the owners of vessels, in implementing your final program? I know under, of course, the previous acts, such as the Bridge-to-Bridge Communication Act, this required industry to install this equipment. Now, what, just generally what other equipment now will be required of vessel owners when your program is fully implemented?

Admiral BARROW. A full answer to this is going to have to wait until a decision is taken on the question of channel 16 guard, but perhaps I can ask Commander Boyce if he has any figures on the costs involved at this time. I know we are working on development of that aspect of the economic costs on the participants and I don't know whether it has been completed at this time, but perhaps I can ask him.

Mr. TREEN. Yes.

Commander BOYCE. I have nothing on it, sir.

Mr. TREEN. The reason I asked is that Congress, this committee and the Congress, is interested in what it costs the taxpayers generally for new rules and regulations and systems, but we are also interested in what the impact is going to be on the industry involved. This is a fortunate feeling of sensitivity that has been growing in Congress. We require a committee to report what a new bill or new law is going to cost in the terms of revenues and we are getting around now to where we are requiring the committee to report on what it is going to cost the industry or the affected people. So that is something that we will be interested in; I would, at least.

How many people are you going to have assigned to this program when it is fully implemented?

Commander BOYCE. Thirty-nine.

Admiral BARROW. Thirty-nine altogether.

Mr. TREEN. Of course, you will have some people on around the clock, won't you?

Admiral BARROW. Yes, sir.

Mr. TREEN. That would mean a total of 39 people given the around-the-clock operation?

Admiral BARROW. No, sir. The 39 people is the total manning requirement for the center itself including the commanding officer and supervisory personnel and watch standers within the system.

Mr. TREEN. At any one time it would be 39 people?

Admiral BARROW. No, sir, that is the total requirement for the center. I don't know whether that includes the personnel to man the lights at Algiers Point.

Commander BOYCE. It does not.

Admiral BARROW. It does not. There will be some additional personnel required to initially man the lights at Algiers Point which are now being operated by the Corps of Engineers. We are not unmindful of the economic cost of this.

I might point out that we are not at the point of a notice of proposed rulemaking, we are still in the consultative point at this time. We have not forwarded any of the regulations on the system to Coast Guard headquarters, so the process of developing an economic impact on the industry is still to be accomplished, as well as necessary leadtime for the users of the system to secure the equipment and get it into place.

Mr. TREEN. The economic impact would include not only the additional equipment that industry might have to acquire, but additional manning requirement that industry might be subjected to. Your system is going to control access or entry into the system from the Gulf Intracoastal Waterways. If that begins at the point where the Intracoastal enters the Mississippi or the inner harbor navigational canal, it is a little bit too late then, isn't it, to tell a tow that they can't enter? It would seem to me that if you are going to deny or delay entry at the access point, that it would be better to cover a little larger area. I would suspect that some of these tows would find it easier to lay back a few miles away than to get stacked up at the locks. If I am all wet, say so.

Admiral BARROW. I don't think you are all wet, Congressman. On this specific point, one of the committees, the subgroups of the Port Safety Advisory Committee that is looking at the package which was developed as a proposal is an area subgroup, subcommittee, and presumably this would be something perhaps they could recommend to us. If indeed you need to go 1 mile or 2 miles or a certain distance in the canal in order to lead into it, I would think that this is something that they could come up and make a recommendation to us on.

I agree that it is not always best to wait until you get right into the area in order to plug into the system, but this is something that they could give their recommendations on.

Mr. TREEN. I hope that I will hear from industry members on that subject. One last question, Mr. Chairman, I was under the impression that the harbor traffic light system was in use all of the time. Is it just in periodic use, just in high water times?

Admiral BARROW. High water times.

Mr. TREEN. Only?

Admiral BARROW. Yes, sir. There have been recommendations over the years to continue this on a year-around scheme.

Mr. TREEN. What is involved? Assuming that there is some benefit, what is the cost of going from just seasonal or intermittent use to full-time use?

Admiral BARROW. I think I would defer to the Corps of Engineers.

Mr. TREEN. That's right; it is under the Corps of Engineers jurisdiction. You haven't taken that over yet?

Admiral BARROW. No, sir. In fact, we have not formed an agreement with the Corps of Engineers on this subject; we still have to negotiate an agreement.

Mr. TREEN. You want some of their budget along with some of their responsibilities.

Thank you, Mr. Chairman.

Mr. BIAGGI. Thank you, Admiral. We have 10 witnesses and in order to provide each one, as I said at the outset, with an opportunity to speak, I will ask respective counsel to hold their questions and submit them in writing to you, Admiral, and you can respond and serve them in the record. Without objection, so ordered.

Thank you for your contribution.

Col. Early J. Rush III, district engineer, New Orleans.

**STATEMENT OF COL. EARLY J. RUSH III, DISTRICT ENGINEER,  
NEW ORLEANS DISTRICT, U.S. ARMY CORPS OF ENGINEERS**

Colonel RUSH. Mr. Chairman, I am Col. Early J. Rush III, district engineer, New Orleans District, U.S. Army Corps of Engineers. I appreciate the fact that the subcommittee recognizes the role that the Corps of Engineers plays in the development, operation, and maintenance of our Nation's waterways. I also appreciate your invitation to appear before this subcommittee today in its evaluation of local vessel traffic safety problems and the Coast Guard's plans for a vessel traffic system on the Mississippi River.

I believe you should know that I assumed my current position as district engineer on August 25, 1975. Additionally, I have with me Mr. Henry Schorr of my operations division. My statement is brief and, therefore, I would like to give it in its entirety.

Since 1933, the Corps of Engineers has operated a visual system of traffic control lights in the New Orleans Harbor. This system is essentially designed to limit traffic to one way around Algiers Point during periods of high water only. The system consists of three lights: One located below Algiers Point on the east bank of the river atop the Governor Nicholls Wharf; a second light on a tower on the west bank levee at Gretna, La.; and a third light on a tower on the west bank levee at Westwego, La.

The Governor Nicholls light controls upbound vessel movements while the Gretna and Westwego lights control downbound traffic. Vessels proceed or hold up, depending upon whether the light is green or red. The Governor Nicholls and Gretna towers are manned by professional pilots who are temporary hire employees of the New Orleans District. These locations have radio communications with vessels using the river. The Westwego light is remote controlled from the Gretna tower.

Historically, the operation of the system has been governed by the river stages as read on the Carrollton Gage located at River Mile 102.8 above Head of Passes.

Originally this system went into operation at a reading of 12 feet on the Carrollton Gage when the river was rising and went out of operation at 15 feet when the river was falling. In 1955, regulations were revised, and the lights were turned on at a 10-foot gage reading on a rising river and discontinued at 12 feet on a falling river.

Since 1968, because of the increase in number and size of vessels using the river, the lights are operated between an 8-foot gage reading on a rising river and a 9-foot gage reading on a falling river. During the last three high water seasons, the lights were operated an average of about 6 months a year.

While we feel there is a definite need for a vessel traffic system, particularly in the New Orleans Harbor, we do not feel we can properly address the scope or manner in which the system would operate without the advantage of extensive studies with the Coast Guard and maritime interests.

Again, I appreciate the opportunity to appear today, and I or Mr. Schorr will be happy to answer any questions that you, Mr. Treen, or your counsels may have.

Mr. BIAGGI. I have one question. The problem of shoaling and silting seems to be perpetual. What can be done besides dredging?

Colonel RUSH. Well, Mr. Chairman, as you know, the Mississippi River drains approximately 41 percent of the United States, that is, the continental United States. As water is generated in the watershed area, it does erode soil and that soil is carried with the Mississippi as the sediment load.

The area here, of course, was built by this type of action as far as the river and its sediment load are concerned. Therefore, we have to expect that we will continue to have sediment deposited in this area and that we will have to continue dredging in order to maintain shipping channels for our navigation potential and also for the commerce of the Nation.

I guess the real question is the quantity of dredging that is required in any given year. During periods of extreme high water, such as we have experienced in the past 3 years, the need and quantity of dredging increase dramatically. At those times we have to pull together as much of the dredging capability that we can in order to cope with the problem. We have done this in the past, not without some impacts elsewhere and not without a significant increase in the funds required for it.

Mr. BIAGGI. Are there any efforts or any studies or research being undertaken in connection with finding alternative methods of disposing of the silt?

Colonel RUSH. We do have a study underway at the present time which is an effort to identify ways which will permit more consistent maintenance of channel dimensions, particularly in the Southwest Pass area, which is where we do the most significant amount of our dredging. We hope that these structures would tend to control the river and reduce the rates of siltation in the navigation channel.

In our deposition of materials we are, of course, at the present time utilizing two methods; one, a corps-owned hopper dredge which works for New Orleans district most of the time when it is not in maintenance, and two, contract cutter-head dredges, which work the other areas that are most suitable for that type of equipment. The hopper dredge actually uses two disposal methods. When river velocities are strong enough to carry resuspended materials out to sea, the hopper dredge simply agitates the bottom material into suspension. This method moves more material out in a given amount of time. However, as river velocities decrease, the dredge must load its hoppers and haul the material to disposal sites in deep waters of the gulf. The cutter-head dredges utilize pipelines and water to deposit that material into disposal sites adjacent to the river banks.

Mr. BIAGGI. How does the existing visual system relate to the vessel traffic system once that is put into effect?



Colonel RUSH. Well, as Admiral Barrow indicated, the system would be turned over to the Coast Guard for its operation. I don't know specifically how that integration will take place, but that would be the concept, we would no longer operate it in the corps.

Mr. BIAGGI. Admiral, will that visual system be continued or discontinued or incorporated into the whole system?

Admiral BARROW. The visual system would be continued in operation by the Coast Guard until the low light level TV surveillance system was placed into effect and then some period beyond that time to insure that the needs of navigation could be taken care of through the television system as compared with the actual onsite people.

After that approved period and once we were satisfied that the system could be controlled from VTC, we would discontinue the people who were actually operating the lights on scene.

Mr. BIAGGI. Congressman Treen.

Mr. TREEN. Colonel Rush, I appreciate you being here very much. The Atchafalaya takes part of that 41-percent drainage—

Colonel RUSH. It certainly does, Mr. Treen.

Mr. TREEN. I want to note for the record that goes through my district, too, the Mississippi and the Atchafalaya. We have lots of problems over there in that area, too.

How many people are involved in manning the traffic light system?

Colonel RUSH. There are nine people involved.

Mr. TREEN. Nine when you have it in operation?

Colonel RUSH. That is correct.

Mr. TREEN. That is about 6 months out of the year for that?

Colonel RUSH. For the last 3 years. Under a normal year, when we don't have extensive high water, our operation has averaged about 2 months per year.

Mr. TREEN. You just hire pilots for that time, and then they are off your payroll?

Colonel RUSH. Yes, sir. We have a list of people who are available and interested in that type of work and in our judgment qualified to perform that function. We then hire them on that temporary basis during either the 2-or up to 6-month timeframe when we are in the high water period. I might add—

Mr. TREEN. That is just for control around Algiers Point?

Colonel RUSH. That is correct, Mr. Treen. I might add that the cost which was questioned before is approximately \$14,000 per month in order to employ the nine individuals to provide around-the-clock operations. So the annual cost would depend upon the degree of time that we actually operated the system.

Mr. TREEN. What else under your jurisdiction are you going to surrender to the Coast Guard when this VTS is fully implemented? How about permitting of fleeting operations, will you retain that?

Colonel RUSH. We will retain permitting of fleeting operations.

Mr. TREEN. And of the locks?

Colonel RUSH. And the locks remain under our control as well.

Mr. TREEN. I would presume under the vessel traffic system access would become the Coast Guard's responsibility then, wouldn't it, under the system? If they scheduled the ships through the access into the system, then they are going to be necessarily telling you—well, I guess they will be telling the vessels.

Colonel RUSH. I don't know the exact details that will be worked out in that regard, however, I am sure there will have to be close coordination between the corps and the Coast Guard.

Mr. TREEN. Do you have any or do you see any problems?

Colonel RUSH. I don't believe so.

Mr. TREEN. I am sure there won't be any problems between you two gentlemen—

Colonel RUSH. I don't believe so.

Mr. TREEN. Thank you.

Mr. BIAGGI. Counsel has some questions and they will submit those to you in writing. I would appreciate it if you would respond through them to the committee.

Colonel RUSH. We will be pleased to answer those for the record, Mr. Chairman.

Mr. BIAGGI. I imagine when the day of surrender comes of jurisdiction, the meeting will have to take place in Geneva.

#### STATEMENT OF CAPT. HENRY G. JOFFRAY, ASSOCIATE PORT DIRECTOR, PORT OF NEW ORLEANS

Capt. Henry G. Joffray, associate port director, Port of New Orleans.

Mr. JOFFRAY. Mr. Chairman, Mr. Treen, gentlemen of the staff, I am Henry G. Joffray, associate port director for the Board of Commissioners for the Port of New Orleans.

I have rendered a statement on the Board's position relative to the vessel traffic system, but I would like to highlight certain facets of the statement.

[The statement follows:]

#### STATEMENT OF HENRY G. JOFFRAY

I am Henry G. Joffray, associate port director of the Port of New Orleans.

In the calendar year 1974, 144,000,000 tons of waterborne commerce transited the Port of New Orleans area. During this period, 125,000 barges passed through our port area. On any given day, 10 percent of all the barges on U.S. inland waterways are in the Port of New Orleans. In addition, there were 15,181 cargo vessel movements through the Port of New Orleans. Also, there were 1,921 tankers moving through our port. Safety statistics indicate that most of the accidents in the Port of New Orleans involved collisions between inland barges and tugs and oceangoing vessels.

If barge traffic continues to increase and ships continue to get larger and less maneuverable, accidents will be more frequent and more costly in terms of lives, property damage, and damage to the environment.

There are certain adverse conditions that recur each year to test the navigational skills of both the small and large vessel operators. During the period from December through February, heavy fog reduces visibility as a result of cool air from the north meeting warmer moist air from the Gulf of Mexico. According to NOAA statistics, New Orleans has 31 days of heavy fog per year. This is not any higher than other port areas on the Gulf, Atlantic, or Pacific Coasts, however, the heavy traffic and type of traffic in this port area makes navigation particularly hazardous during this period of reduced visibility. Also, the heavy traffic in the restricted passes at the mouth of the river presents additional navigational hazards. The hazardous situation on the river is compounded by other problems during this same period of time (December through February) because in addition to the fog, the current velocity on the river is at its highest. With increasing stages of the river, we can expect swift and unpredictable eddy currents and a changing channel bottom.

River elevations reached flood stages in 1973 and in 1974. In 1973, we were plagued with barge breakaways resulting from swift currents, inadequate barge fleeting areas, and questionable fleeting practices. In 1974, as a result of safety measures initiated by the U.S. Coast Guard and traffic controls which were made mandatory, the Port of New Orleans did not experience the barge breakaway problem to the extent as in 1973, even though the fog and river currents were comparable. This attests to the fact that safety measures and traffic controls are effective.

A safe port is a healthy port. By considering current trends in commerce, vessel traffic, known geographic and logistical factors, known weather and river conditions, and considering the opinions of persons knowledgeable in navigation through the port area, we can make some progress on safety and environmental conditions. We believe the following procedures and programs will contribute to an effective safety program for our port:

A vessel traffic system acceptable to Government and industry.

Additional barge fleeting areas which comply with appropriate safety standards.

Maintenance of Mississippi River authorized project channel depth of 40 feet and provision of a deeper navigation channel for the longer term.

A new ship/barge lock downstream of the general anchorage area to more safely accommodate barge traffic and to provide an alternate route to the Gulf of Mexico for deep draft vessels.

Mr. JOFFRAY. We naturally have a great concern for the safety of our port area. As Admiral Barrow indicated, we are the second largest port in the United States in total waterborne commerce. Last year we handled over 144 million tons of cargo through our port area. The vessels that accommodate this cargo represent a tremendous amount of traffic. In fact, within our port reaches, this is the most dense traffic area on the inland waterways system in America.

On any given day, 10 percent of all of the barges of the United States are located in the Port of New Orleans. We have 2,000 to 3,000 barges in our port region, for instance, today. We have anywhere from 50 to 100 vessels per day.

As I mentioned before, compounding this traffic, we have some physical restraints in our geographical layout. As you know, the city is in a crescent and one of the areas that presents a tremendous hazard and a difficult problem for navigation is the Algiers Point. In excess of 180,000 bottoms rounded that point last year. This is a 90-degree bend where you have limited visibility at best and you compound that with about 30 days of fog during the navigational year and anywhere from the 4- to 6-knot current during high water, you can see you have the ingredients for some serious holocausts that could occur. We are very concerned in that respect, also.

Another factor that is entering in, we see more and more in our deep draft vessels an increase in size. It used to be that a 500-foot vessel with maybe 12,000 tons was a considerable-sized vessel in the normal day-to-day port operation. Just in the first month of this year we handled more large vessels of the OBO type, 600 feet and over, than we handled all of last year. So we see tremendous growth factors in the size and dead weight of the vessels that come upon us very rapidly.

Naturally your larger ships are confronted with the restraints that I just mentioned, the currents and fog and reduced speed because of congested situations within your harbor area, the maneuverability is lessened to the extent that it is more difficult for them to safely operate within the restraints of the port's physical layout.

In 1973, we had here within the port during this high water incident and during our fog season a situation where we had 130 runaway barges that got loose in the port area. Fortunately, the extent of the damage was minimal considering what could have happened in that instance. Well, immediately after, and particularly more so in 1974, the Coast Guard initiated safety measures and operations that I think attest to the effectiveness of the traffic system or the initiation of such measures as to the safety of the port and its cargo activities because on 1974, the incidence of runaway barges was practically nil, mainly because of the industry cooperating with the Coast Guard that we were able to have a very good track record for that year.

I heard an economist mention the other day in another panel discussion that I attended that maritime commerce, if you generate \$100 in revenue, you net out about \$5, but for every \$100 that you save in preventive measures on accidents will increase your cash flow by \$50. I think it is of vital interest to the industry, anything to enhance safety improves their profit picture in the overall financial return of their operations.

So in conclusion and consideration of these facts that has led our Board to very definitely support the initiation and operation of a vessel traffic system within our area, and I would be glad at this time to answer any questions.

Mr. BIAGGI. I don't think I have any questions, Mr. Joffray, but I would like to first thank you for your contribution and your testimony. I think it should be said that the Coast Guard and the industry, by working together, ought to be congratulated because from my observations this morning, it confounds me that you don't have more serious accidents on this river, and it is a tribute to the industry and the men who pilot those boats and, of course, the Coast Guard. Hopefully, the installation of the vessel traffic system will reduce that incidence of accidents even more. I like the perspective you put on it. You make more money by not spending it on accidents. Of course, the economics are very compelling and industry, I am sure, will cooperate.

Thank you very much for your contribution.

Mr. TREEN. Thank you, Mr. Joffray, for coming. What kind of economic impact do you see to the port from the full implementation of this system? I realize that we don't know all of the details of the system yet. We talked about the industry already. Is it going to have any impact one way or the other on the port itself or the revenues of the port?

Mr. JOFFRAY. I would think that if the system is advisory in nature and if it is not too rigidly structured that there are encumbrances placed upon the industry that could hamper or delay their operations, I think it would be a positive measure in the port. If it is, say, an over-kill type situation where it is too rigid and too structured and you entail delays, I can't speak too well for inland waterways costs, but on the deep sea you are going anywhere from \$5,000 to \$30,000 per day per vessel. As I say, if you delay these ships for any period of time because trying to adhere to certain provisions of the system that are compelling or mandatory, it could have a detrimental effect in that regard, but, otherwise, other than the financial outlays of the industry, and I think most of them have the necessary radio equipment and

some have radar. I don't know what the encumbrances would be on industry as far as financial outlay, but I think in the long run if these safety measures were initiated, it would enhance not only the revenues of the port, but those of the industry.

Mr. TREEN. Thank you.

Mr. BIAGGI. One question. You mentioned that the size of the ships were increasing. What is the width of the largest ship that can pass through these locks?

Mr. JOFFRAY. Well, the present lock is 75 feet wide; there is a new lock proposed, construction of a new lock, which I think in conjunction with the vessel traffic should help the overall safety situation of the port, and the width of that lock will be 150 feet. Presently we are restrained because we have got a lot of ships 90-foot in beam that can't get through the existing locks because that is the controlling width within the lock.

Mr. BIAGGI. That seems to be a trend, the increasing size of ships. I was down in Panama and they are just about skimming through.

Mr. JOFFRAY. It certainly is.

Mr. BIAGGI. Thank you very much.

Mr. Norman K. Doucet, president, Gulf Coast Towing Association.

#### **STATEMENT OF NORMAN K. DOUCET, PRESIDENT, GULF COAST TOWING ASSOCIATION**

Mr. DOUCET. Mr. Chairman, Congressman Treen, members of the committee staff, I have a prepared statement. First of all, I should say my name is Norman Doucet. My address is 2614 South Bayou Drive in Golden Meadow, La. I am president of the Gulf Coast Towing Association.

I have a prepared statement here which I will make and a time or two I may stray from it. The Gulf Coast Towing Association is a 3-year-old trade organization which represents approximately 59 towing companies operating throughout the gulf coast. Originally formed to respond to the towing vessel operators licensing regulations, the Gulf Coast Towing Association gives a voice to the smaller firms that operate on the Mississippi River and the Gulf Intracoastal Waterway.

Our members are committed to safety on the waterways. When your livelihood depends upon a vessel that you own and operate, it is easy to become personally involved in waterways safety. We are sincerely interested in the Coast Guard's proposed vessel traffic system regulations and we appreciate having this opportunity to express our views on the general subject of vessel traffic controls.

The members of the Gulf Coast Towing Association believe that radio telephone communications are the single most important factor in vessel traffic safety. We note that a Coast Guard vessel traffic systems issue study completed in 1973 concluded that the bridge-to-bridge radio telephone requirements would result in an 80 percent reduction in collisions between moving vessels. If that projected improvement has not been realized, it is because there has been a lack of enforcement of proper radio procedure on the channel 13, the bridge-to-bridge frequency.

Mr. BIAGGI. Would you be a little more detailed as far as that last statement is concerned?

Mr. DOUCET. Yes, sir, I will come back to that a little later, if you don't mind. I have got something that I want to come back to on this certain thing here.

Improved bridge-to-bridge communications will contribute the most to vessel traffic safety at the least expense. We feel that the Coast Guard should not give up on the present system without a concerted effort to realize its full safety potential. The Gulf Coast Towing Association is currently conducting an education program in proper radio telephone procedures for its members. We urge the Federal Communications Commission and Coast Guard meet their responsibilities for enforcing circuit discipline on the bridge-to-bridge frequency.

A review of the Coast Guard's draft regulations indicates that the proposed communications system may be unworkable. Existing regulations require a vessel operator to monitor channels 13 and 16 in addition to the company frequencies he may be using. The proposed regulations would require the addition of three more radio channels to the vessel's communications equipment and the continuous monitoring of at least three separate frequencies. Aside from the additional expense this requirement would entail, we feel that the proposed system would not be practical because it will burden the already busy operator with the requirement to listen to and sift through three continuous sources of radio communications.

In short, we feel that a system already exists which will improve vessel traffic safety in the New Orleans area; a more effective utilization of channel 13. We recommend that the Coast Guard, FCC, and industry try to make the present system work before implementing a multimillion dollar system that may create more problems than exist now.

We recommend that the Coast Guard, FCC, and the industry try to make the present system work. Now, this is where I will answer your question. We also have FCC, Federal Communications Commission. The FCC is, I believe, the Federal agency, regulatory agency, for any kind of radio communications. I have been to meetings throughout the State of Louisiana and throughout other States and I have talked a lot about the traffic system, but up until today I have never seen an agent of FCC in any of our meetings, and yet they are the people that are going to regulate us.

I believe—and this is my only thought—

Mr. BIAGGI. Have you invited them?

Mr. DOUCET. I think they have been invited to some of our Port Safety Council meetings.

Mr. BIAGGI. They should be there.

Mr. DOUCET. I know they have been invited to our association meetings, but it seems like they are too busy monitoring stations in Allegan, Mich., and Kingsville, Tex., and issuing out citations for not using call letters and not waiting for 2-minute intervals, they are too busy doing that and they can't come to New Orleans.

Mr. BIAGGI. New Orleans is part of the United States and it is part of their responsibility.

Mr. DOUCET. Well, I believe—and this is my belief only—but I believe if FCC would have gotten involved in this and would have

taken the local people that cause these traffic jams off of the air, and I think it is very simple to do that, I don't believe we would have to even talk about a vessel traffic system around here today. However, we are in favor of a vessel traffic system for the city of New Orleans because the way it is operating now, we need it. I think I have gotten my point across about the FCC.

Mr. BIAGGI. Before you go further, Mr. Doucet, I would like to stay with that point because that was the question I was going to raise. I think the admiral touched on it when he mentioned the three frequencies and he thought there might be some difficulty.

If I recollect correctly, Admiral, you testified that you were dealing with some alternatives in connection with the three frequencies?

Admiral BARROW. One of the recommendations that has been made here, as well as in New York, is that once vessels report in to vessel traffic systems, the requirement for monitoring channel 16 be dispensed with. So, in fact, if that were the case, and this, of course, has not been agreed to by FCC or anybody else, but if this were the case, a vessel in the system would be required to monitor the sector frequently and channel 13.

Mr. BIAGGI. Has the Coast Guard been in touch with FCC in connection with this problem?

Admiral BARROW. This is a matter which is going to be taken care of between Coast Guard headquarters and FCC. It is a matter under active consideration and active interplay right now; yes, sir.

Mr. BIAGGI. How does that proposal set with your industry?

Mr. DOUCET. Well, sir, I am speaking as a man that has put in 28 years of actually running up and down this river in this part of the country. I just got off the boats in the month of February and I think I know the ropes. I still say that the way this VTS program is set up now, that it will not work on that one condition, that there will be too many radio frequencies for a man to listen to all day long. You have got channel 13, which you do have to stand by on the river now for ships traffic; you have got channel 16, the emergency frequency for the Coast Guard, and it is also an emergency frequency put out by FCC. You also have a company frequency that you have got to keep in contact with your company. That gives you three frequencies and then if you add one or two more frequencies that you have got to operate for VTS, you will have just too many people talking at one time.

Mr. BIAGGI. Is your point of view reflected on the advisory council?

Mr. DOUCET. On the VTS advisory council?

Mr. BIAGGI. Yes.

Mr. DOUCET. I am on the steering committee here in New Orleans on the VTS group.

Mr. BIAGGI. You should make your point emphatic in that area. Apparently there is an effort to conciliate that situation. I think it has been acknowledged that there is some confusion.

Mr. DOUCET. Well, to tell you truthfully, I would like to see a good VTS program, but something that will work. This is the only drawback that I can see, too many frequencies involved to monitor around the city of New Orleans at one time and that is the only drawback that we have got on it.

Now, to keep on with my statement—

Mr. BIAGGI. Admiral, in connection with this discussion, how would you resolve this so that there is mutual agreement, consistent with the safety of the vessel in the vessel traffic system?

Admiral BARROW. I don't believe I understand the question, Mr. Chairman.

Mr. BIAGGI. The witness testified very strongly that there is an extra burden and obviously some diminution of effectiveness of a three-frequency process. I think you and I chatted about this, and I think you testified that there might be some confusion and something should be done. Just how far can you go and be consistent with your ultimate objective?

Admiral BARROW. At this level, Mr. Chairman, I think nothing other than to make recommendations to the Commandant for pursuing through FCC. I would agree, and I'm sure that the people in our Coast Guard contingent here would be that for a towboat to try to monitor channel 16, channel 13, and a sector frequency would be awfully difficult, if not impossible, in connection with running a good vessel traffic system. I think there has to be some relief on this in order to have a viable system.

Mr. BIAGGI. Thank you.

Mr. TREEN. Can I ask a question?

Mr. BIAGGI. Certainly.

Mr. TREEN. Norman, you have got three frequencies that you are monitoring now, 13, 16, and your company frequency?

Mr. DOUCET. Right.

Mr. TREEN. Under the VTS system it would be one additional, rather than three additional. I mean, there are three frequencies used in the system, but you have only been monitoring one of those; is that correct Admiral Barrow?

Admiral BARROW. Yes, sir. I think what the witness was trying to say was the additional channels that he would have to add to his radio in order to accommodate—

Mr. TREEN. Right, but as far as monitoring, you have got one more?

Mr. DOUCET. Right.

Mr. TREEN. Now, one of the frequencies that you monitor now is channel 16, the emergency frequency?

Mr. DOUCET. Right.

Mr. TREEN. That is used by the Coast Guard for emergency messages. When you get into the VTS system, Admiral Barrow, why couldn't the requirement for monitoring 16 be expended and emergency messages then given over the VTS system? In a sense it is going to be run by the Coast Guard. Why should operators have to monitor two Coast Guard frequencies?

Admiral BARROW. The channel 16 guard is an FCC requirement purely and simply. Vessels would in addition have to guard the VTS sector frequency and channel 13, the bridge-to-bridge frequency.

Mr. TREEN. I mean, from your point of view, do you see any problems?

Admiral BARROW. No, sir, although the monitoring of channel 16 for ships in the system would probably require additional equipment and personnel in VTC.

Mr. TREEN. What do you think of that, Mr. Doucet?

Mr. DOUCET. Well, that still falls under FCC, the regulatory agency, and still we don't hear from them people.



Mr. TREEN. I understand, but assuming that this can be accomplished, do you have any problem with that? In other words, as you move into the VTS system, then you are monitoring—I realize you still have got to have all of these channels on your equipment—but as far as monitoring these frequencies, if you have only the one frequency, the VTS frequency for the sector that you are in over which you would also get any emergency messages that you would get on your channel 16, is there anything wrong with that?

Mr. DOUCET. No; if FCC will comply with it.

Mr. TREEN. Thank you.

Mr. DOUCET. If a VTS is implemented in the New Orleans area, we recommend that it not extend above the Huey P. Long Bridge. A review of the proposed VTS rules by the ad hoc steering committee indicated that there is some question of justification of a vessel traffic system above the bridge. In light of that question, we feel that a logical step-by-step approach should be used to implement the VTS. In fact, this form of phased approach was recommended by a General Accounting Office study of vessel traffic systems. We ask that the Coast Guard follow the GAO recommendation by using a phased approach in the New Orleans area. Only after experience is gained in limited area and a need is identified in an additional area should the program be expanded.

Discussions by the ad hoc steering committee also indicated that this vessel traffic system may be the forerunner of more extensive forms of vessel traffic control. The members of the Gulf Coast Towing Association do not feel that there is identifiable need at the present time for the implementation of other forms of vessel control such as tonnage, horsepower limitations, or speed limits. President Ford has asked the executive agencies to seek ways to reduce the administrative and regulatory burden they place on the private sector. We hope that the Members of Congress will help the Chief Executive hold the regulatory agencies to his orders.

In conclusion, we feel that the goal of improved navigational safety can best be achieved by using and improving the present system of bridge-to-bridge communications. We feel that we should try to make the present system work before spending millions of dollars on an untried and possibly impractical form of vessel traffic control.

If a vessel traffic system is to be implemented, we ask that it extend above the Huey P. Long Bridge only if the need exists and only when the system is tested in a smaller area. We further ask the Members of Congress to do what they can to check the growing power of Federal bureaucracy.

Thank you again for giving the members of the Gulf Coast Towing Association this opportunity to express their views. Thank you.

Mr. BIAGGI. Thank you, Mr. Doucet. I have no questions. I think we, in our colloquy, established a very important point and one that I'm sure will be given proper attention by the Coast Guard and FCC as well as this committee. It recognizes a problem and the question is how to resolve it. As far as the Coast Guard is concerned, apparently there seems to be no objection to the suggestion of Congressman Treen, that it is a question of dealing with FCC. I don't know the flexibility of that agency as far as this particular regulation is concerned. I see smiling faces and that means the executive will continue to remain the executive and intransigent.

Mr. TREEN. Not altogether.

Mr. BIAGGI. I hope this is the exception that proves the rule. I don't simply mean this administration. Now we agree.

Mr. DOUCET. I must say this, that around the city of New Orleans there is very good harmony between the U.S. Coast Guard, between the industry, the ship pilots, the pilot's association and, as far as I am concerned, the only people that we haven't been able to get too much out of or associate with us is the Federal Communications Commission.

Mr. TREEN. Could I ask one question; Do you see any problems with regard to entry into the vessel traffic system area from the Intra-coastal Canal? If you get to the point of entry and you have got to get stacked up there, what sort of problems—

Mr. DOUCET. Well, my understanding, as far as the inharbor navigational canal is concerned, my understanding is that the VTS program will extend to the, well, I know it will extend to MRGO—

Mr. TREEN. Extend to what?

Mr. DOUCET. Extend to the Mississippi River-gulf outlet. (MRGO) That is where most of these tows that are coming from the east, they have got to come through the system, so they will be through the system at the intersection before they ever come through the locks. Am I right, Admiral?

Admiral BARROW. Yes.

Mr. TREEN. Within a section of the—

Mr. DOUCET. Of the Industrial Canal and the Mississippi River-gulf outlet.

Mr. TREEN. There is not a lot of distance there, is there, from that intersection—

Mr. DOUCET. That may not be a lot of distance, but by God, there's a lot of waiting.

Admiral BARROW. One of the things that we are going to investigate and, in fact, are investigating are improved communications between the vessel traffic center and each of the locks in order to determine what the status would be at the locks. One of the things we can do with that would be to pass this information to tows that are approaching the reporting-in point to give them what the waiting time is going to be at that specific area, and hopefully to decrease some of the problem in getting to a lock and having to stay there and wait. We are investigating teletype communications, and things of that sort, with the lock.

Mr. TREEN. How about coming in from the west?

Mr. DOUCET. I don't know where the traffic system will start from the west. I would like to see it start anywhere west of the Algiers Lock or Harvey Locks. If we do wait until the boats come into the river itself to enter them into the system, then it's a little late.

Mr. TREEN. How far, in your judgment, would you have to go in distance from the locks back to accommodate periods of heavy traffic?

Mr. DOUCET. I think that if the locks themselves would be put into the system, when a man calls in for lockage from the canal side, it gives them plenty of time to be prepared for what he is going to meet.

Mr. TREEN. How far away is a tow when it calls to the lock?

Mr. DOUCET. Usually around the Harvey Locks, usually about a mile away from the Harvey Locks and at the Algiers Locks, he is usually about three-quarters of a mile when he gets to the Algiers

Highway Bridge, and that should give them sufficient time to be prepared for what is out on the river when he gets out.

Mr. TREEN. Thank you.

Mr. BIAGGI. Mr. William C. McNeal, marine consultant.

#### STATEMENT OF WILLIAM C. McNEAL, MARINE CONSULTANT

Mr. McNEAL. Thank you, Mr. Chairman. Mr. Chairman, you said that this record would be open for people to submit contributions, would that be for as long a period as 30 days?

Mr. BIAGGI. Yes.

Mr. McNEAL. Thank you, sir.

Mr. Chairman, I appreciate the opportunity to speak here today. I am William C. McNeal of 2519 Bristol Place, New Orleans, and I appear on behalf of Mid-South Towing Co. and Gulf Coast Transit Co., both of 4251 Henderson Boulevard in Tampa, and I personally subscribe to this statement.

We know that vessel traffic safety in this area, with respect to avoiding collisions, has improved in the past few years despite major floods in 1973 and 1974. The primary reason was congressional action in 1971 in passing the Vessel Bridge-to-Bridge Radio Telephone Act. This made it mandatory that all large commercial vessels have a common radio with an ability for pilot-to-pilot communication. It was effective January 1, 1973.

Other safety improvements have come from the law licensing most towing vessel operators and the increased on-the-river presence of Coast Guard vessels and personnel.

We do not believe that the wide-ranging and costly vessel traffic system now being imposed on the area will substantially improve safety. We do believe that full time, instead of seasonal, use of the New Orleans Harbor traffic lights would contribute to increased vessel traffic safety. We urge this full-time operation.

The lights have been run by the Corps of Engineers since 1952, and we think that a vessel movement reporting system in the immediate New Orleans Harbor area would improve collision avoidance to a degree that warrants establishment of such a system. This should be done between the Huey P. Long Bridge and Belle Chasse.

We also suggest that you closely review the actions of the Federal Communications Commission in establishing rules that require listening to more than one marine radio channel simultaneously and in failing to enforce their rules about misuse of vessel radio telephones. These are general views; let me explain them.

The New Orleans Vessel Traffic System, as now being built by the Coast Guard, covers about 330 miles of Louisiana's rivers and canals. This plan was devised without any consultation with industry despite the fact that in 1971 the then Commandant of the Coast Guard assured your subcommittee that such would be done prior to the imposition of a traffic system.

In 1969 discussions, the Coast Guard's local officer in charge of marine inspection and captain of the Port of New Orleans both agreed that a vessel traffic system was needed in New Orleans Harbor, but only from Algiers Point downriver to Meraux. Now the Coast Guard has a new, much-expanded view. We recognize difficulties inherent in

the formation of formal advisory committees caused primarily by over-regulation, but they have been used to formulate vessel traffic systems in New York, Houston, and Louisville.

We think the use of such a group here would have precluded the planning errors now apparently built into the monster system. We urge the Coast Guard be instructed not to repeat this mistake in other areas in the future.

With full Coast Guard cooperation, I have been able to review the casualty data that is given as the jurisdiction for the giant vessel traffic system. My analysis of the data indicates a need for the system from the Huey P. Long Bridge to Belle Chasse, a possible need for a system downriver from Belle Chasse to the sea buoy, no need whatsoever in the Mississippi River-Gulf Outlet where commercial vessel traffic is rare, and no need upriver from the Huey P. Long Bridge.

The Coast Guard data includes the period from 1968 to 1973, and includes only 6 months of operation under the Bridge-to-Bridge Radio Telephone Act and none under the Towboat Operator Licensing Act.

The data does include such unrelated items as groundings, barge breakaways, and rammings of docks and other fixed objects in waterways as well as vessel collisions. We do not think a vessel traffic system will be of much help except in preventing vessel collisions.

I am certain both my analysis and the Coast Guard analysis can be questioned since the data is suspect. Maybe the Coast Guard phrased it best when they stated:

The total benefit of a particular vessel traffic system cannot be determined from available data. . . . These benefits are either difficult to convert to dollars or dollar benefits are difficult to obtain; however, they must be evaluated before a conclusive cost/benefit analysis . . . can be made.

We urge you obtain such analysis for the Louisiana vessel traffic system. We also feel that the Coast Guard should comply with the spirit of Executive Order 11821 and submit a study of the inflationary impact of the vessel traffic system plan as it affects both the industry being regulated and the high cost to the American taxpayer.

We also need your help in dealing with the radio communications problem in our business. The Coast Guard planned rules under the Bridge-to-Bridge Radio Telephone Act that made it possible and necessary for nearly all vessels underway to have and use a radio to talk with others in the immediate area. This was a simple, common-sense, and good sense idea. Then the Federal Communications Commission stepped in and said that a pilot had to listen simultaneously to a second radio channel. You can imagine how this works.

Now the Coast Guard plans to have us monitor simultaneously a third channel while in the vessel traffic system here. The primary reason for this is simply the failure of the Federal Communications Commission to police misuse of the original bridge-to-bridge channel so it is overcrowded and cannot be relied on for vessel traffic. Obviously a pilot cannot listen effectively to three radio channels at once. If any of you have ever tried to take simultaneous orders from your mother-in-law, your wife, and your daughter, I think you will understand the problems. As a result, safety suffers.

In summary, we recommend that the Algiers traffic light be put into full-time service; that a vessel movement reporting system be instituted from the Huey P. Long Bridge to Belle Chasse; that the formal

advisory committee be organized to consider vessel traffic system plans; that the New Orleans-Louisiana system be properly analyzed for economic benefits; that an inflation impact statement be drawn up for the system; that the marine radio telephone rules be both corrected and enforced.

I thank you for your time.

Mr. BIAGGI. I want to thank you for a very precise statement. Apparently you have touched a number of very critical and sensitive areas. I know you were in the room while we were talking in terms of the three-channel business and obviously the FCC will have to be dealt with on that basis, so I think there is a unanimity of opinion as far as the burdening of the pilot in receiving messages from three people at the same time.

Mr. McNEAL. What happens, sir, is that obviously one of them is going to be received and the other two are going to be tuned out.

Mr. BIAGGI. That is obvious and we are aware of that. The admiral has testified to that fact and the Coast Guard will talk to the FCC, as stated by Admiral Barrow earlier in connection with this particular relation. It causes a problem and it has been recognized.

I was under the impression, correct me if I am wrong, but I was under the impression that we had a form of advisory committee in this area.

Admiral BARROW. We do not have an advisory committee established in accordance with the formal process whereby the people's names are submitted, with their background, and they are agreed to formally with the agenda published in the Federal Register, no, sir, we do not.

Mr. BIAGGI. Is there any particular reason why we don't?

Admiral BARROW. I think that the record will show that I stated previously that in early 1974 a request was made for a formal advisory committee with a charter forwarded and it was Headquarters' conclusion at that time that the Ports and Waterways Safety Act requirements for consultation did not have to be by that process. That was during a period of time when formal advisory groups were being looked on as a proliferation of committees and Headquarters decided not to go through that process.

They encouraged, as this thing progressed, full consultation with those affected by the requirements, and that the product that was worked up be submitted to various groups of local people who were interested in the system for their advice on the application, and that has been done. We submitted in May or June the proposals to the port safety advisory council which has formed up subcommittees to deal with the proposal and to come back to me with a report.

Mr. TREEN. Will you yield to me for a moment, Mr. Chairman?

Would you explain the port safety advisory committee. How is that made up and who serves on it?

Admiral BARROW. It is a very broad-based group of people in New Orleans consisting of agents, port authority people, dock board, and towing-barge people.

Mr. TREEN. Is the Coast Guard represented on it?

Admiral BARROW. The Coast Guard does attend the meetings.

Mr. TREEN. You serve on it informally?

Admiral BARROW. The package which we referred to them is being considered by a group formed up out of the port safety advisory committee and Mr. David Wheat is the chairman of that group.

Mr. TREEN. You serve on that, Mr. McNeal, or you did at one time?

Mr. McNEAL. Yes.

Mr. TREEN. You serve on it now?

Mr. McNEAL. Right.

Mr. TREEN. I want to get back to that in a moment, but I don't want to interrupt you.

Mr. BIAGGI. The testimony of several of these witnesses, Admiral, seems to be consistent with one another as some of the points of contention are concerned. Has the Coast Guard been advised of these points of contention, and have they been taken up for discussion by this advisory committee that you have?

Admiral BARROW. Which point?

Mr. BIAGGI. Well, the three-channel thing which we all agree may cause some problems and confusion. I would like to know whether or not as a matter of procedure it was discussed generally by the industry?

Admiral BARROW. Yes, sir. It has been and that particular item has been forwarded to Coast Guard Headquarters within the last month as a particular trouble spot in the establishment of the system. That has gone forward. The report from the ad hoc committee that Captain Wheat has will be coming to me sometime in the middle of this month and we will then consider their comments that have been made to us by that group, modify the proposal that we have now, and send it forward to the Commandant.

Mr. BIAGGI. Earlier you said that your request for a charter of the advisory committee was turned down by the headquarters. Was it, in fact, turned down by headquarters or someone higher up, to your knowledge?

Admiral BARROW. Well, sir, it was not my recommendation. This would have gone back to a previous district commander. The proposal for a formal vessel traffic committee was turned down by headquarters. The chief counsel of the Coast Guard had been requested to determine if a formal advisory committee was mandatory to satisfy the requirements of section 104 of the Ports and Waterways Safety Act, and the chief counsel of the Coast Guard answered this question in the negative, and the establishment of the formal committee was not determined to be in the best interests at that time.

Now we are talking about a formal committee; we are not talking about the consultative process that has been going on and is going on right now. We are not at the point of putting out a notice of proposed rulemaking, so we are in the consulting phase right now.

I have agreed all along with Mr. McNeal and others that I think that the consultative process going back to 1971 probably would have been a better way to have gone about it, but notwithstanding that, I don't think we are completely lost. We are in that process right now.

Mr. BIAGGI. I am not so sure that I got a concise response to my question. Let me rephrase it. Was this decision made at a departmental level?

Admiral BARROW. No, sir. The response which we got came from the Commandant, Coast Guard Headquarters.

Mr. BIAGGI. Well, that may well be. When I said, "to your knowledge," do you know whether it was made at the departmental level?

Admiral BARROW. No, sir, I know of no decision taken on that particular subject at departmental level.

Mr. McNEAL. Mr. Chairman, could I comment on the advisory committee that may help clear up some of the problems? I proposed here that a formal advisory committee would have been an excellent idea at the time that the planning was done, was underway. This was what was envisioned in the questioning. I'm sure that was made by Mr. Corrado of the Commandant in 1971, and that is what generally we felt in the industry. The formal advisory committees have been used in every other vessel traffic system that I am aware of and, as a matter of fact, as recently as last May in Huntington, W. Va., the Commandant of the Coast Guard praised this industry committee with respect to a VTS system at Louisville, and this is in the Coast Guard's proceedings of the Merchant Marine Council.

The point here is that until this spring and until within the last 5 months, the individuals have not been brought in on any sort of a formal, informal, organized or however you would like to call it, basis to talk about the system. Now, the only thing individuals have been asked to comment on in this board safety advisory committee and/or ad hoc steering committee are the regulations. We have not been asked to address ourselves as to whether or not the system is necessary, as to whether or not the areas are correct, as to whether or not the entire system might or might not be needed and/or the costs involved. It is these basic things that I believe are questionable about the New Orleans vessel traffic system as now proposed.

Mr. BIAGGI. Let me ask one question and put this business to rest. I get the notion that we do have a formal advisory committee in other ports. Is that what you testified to, Mr. McNeal?

Mr. McNEAL. Yes, sir.

Mr. BIAGGI. To your knowledge, is that a fact, Admiral?

Admiral BARROW. Yes, sir, this is true in some ports.

Mr. BIAGGI. New Orleans is treated somewhat differently?

Admiral BARROW. New York does have a formal vessel traffic system advisory committee.

Mr. BIAGGI. That was also my notion. Can you explain why New Orleans is treated in a different fashion?

Admiral BARROW. No, sir, other than the fact that a charter was requested and turned down, I can't tell you whether the facts and figures upon which the initial system was predicated were considered to be of such overpowering nature that at that stage one was just not considered necessary, I have no idea.

Mr. BIAGGI. I would like to say in connection with the last statement you made that there have been no formal meetings. Admiral Barrow did testify that he has been meeting with the members of the industry. Is that a fact, Admiral, informally?

Admiral BARROW. Yes, sir, we have people who have been meeting with the ad hoc group on a regular basis.

Mr. TREEN. You stated, Mr. McNeal, in your statement on page 2: "This plan was devised without any consultation . . ." Do you stand by that up to this point "without any consultation"?

Mr. McNEAL. Yes, sir, I stand by it. To my knowledge, nobody in the business has been in consultation with the people who drafted, who devised and drafted the plan. To the best of my knowledge, this plan was drafted and devised in Washington in Coast Guard Headquarters.

Mr. TREEN. You are talking about the plan for New Orleans?

Mr. McNEAL. I am, sir, and I think it was devised in 1971 and 1972, and the first time I think that any individual—and there are many people in the marine business in this room—knew the extent of what was being proposed in any detail was when the draft of the environmental impact statement was issued on August 6, 1974.

At that time I, for the first time, saw it and I do try to follow things of this type. There may be others here who are better acquainted than I. I have not been able to find a person who was in that early consultation. So I will stand by the statement, sir, even though I may be proved wrong.

Mr. TREEN. I would like at this point in the record to read in a section of the operative statutes that I had in mind earlier, and that is this part of section 104. Section 104 states: "The Secretary may issue reasonable rules and regulations and standards necessary to implement this title. In the exercise of his rule making authority the Secretary is subject to the provisions of Chapters Five and Seven of Title Fifteen, United States Code." That is the Administrative Procedure Act, which, of course, requires him to publish the proposed regulations in the Federal Register.

Now, the next sentence, I think, is apropos to our discussion here, and that is as follows: "In preparing proposed rules"—and note the words "proposed rules"—"In preparing proposed rules, regulations and standards, the Secretary shall provide an adequate opportunity for consultation and comment to state and local governments, representatives of the marine industry, port and harbor authorities, environmental groups, and other interested parties."

That is the end of the section 104. I am not quarreling with you, Admiral Barrow. I think you are following orders from your headquarters. It would seem to me that if the Secretary is mandated by the law passed by Congress in 1972 to provide an adequate opportunity for consultation and comment, that means some sort of mechanism to provide it. I think there is a mandate there, not necessarily to set up an advisory committee under the appropriate statutes that deal with advisory committees, but to set up some sort of mechanism.

It doesn't direct the district Coast Guard commander but rather it calls for the Secretary to provide an opportunity. That means to me that the Secretary is bound to put out some sort of regulation or statement if he is mandated to provide some opportunity for the consultation. I don't want to beat this thing to death, but I think both the Coast Guard and industry are in agreement that a more formalized consultation mechanism would have been helpful.

I would add this to my good friend, Bill McNeal. I'm sure that the Coast Guard will be pleased to receive all of your comments on the VTS system, including the basic question of whether it is needed at all. You are certainly not going to be restrained in the kind of comments that you make in response to the requests for comments.

Mr. McNEAL. May I say, Congressman Treen, that restraint is not one of those things that I exercise too often. I will say, too, and I believe it should be noted here that Admiral Barrow has been most receptive to any type of comment that has happened. Most of the uncommunicativeness that I have talked about here certainly didn't occur on his watch in the Coast Guard.



Mr. TREEN. I know he appreciates that and I do, too.

Mr. BIAGGI. I would like to address myself to the point that was just made, how you justify the distinction between New York and New Orleans. Obviously, on its face it is not equitable. I have been advised by counsel, however, that the Federal Advisory Committee Act of January 1, 1974, in order to deal with the proliferation of committees throughout the Federal structure established certain criteria that made it more difficult to establish these advisory committees as contrasted to the situation that existed prior to the enactment of the law.

For the record I have to get it down so that we didn't make New Orleans look so bad.

Admiral BARROW. May I make one other comment on that. I think despite the fact that perhaps a political mistake was made in not establishing a full advisory committee with a charter and publishing in the Federal Register, I think that the consultative process by which we come forward with a notice of proposed rulemaking is going on now. I have noted no reticence on the part of Mr. McNeal or anybody else to tell me what they think about the system, and I'm sure that the notice of proposed rulemaking that goes forward will reflect, at least at this stage, a lot of the comments which are made.

I think the system, its extent, is going to have to stand on the record and on the facts and on what is needed. This advisory committee, whether or not it be a formally constituted one under the system, I think doesn't matter to that process.

Mr. BIAGGI. Thank you, Mr. McNeal.

Mr. MCNEAL. Thank you, sir. I would only comment, if I may, that if the Coast Guard feels that we should obey the law, I have the feeling sometimes that they ought to obey the Federal Committee Act, too.

Thank you, sir.

Mr. TREEN. He had to get that last punch in.

Mr. BIAGGI. We will take a short recess.

[A short recess was taken.]

Mr. BIAGGI. The meeting is called to order.

Mr. Sam Giallanza, vice president, New Orleans Steamship Association.

#### **STATEMENT OF SAM GIALLANZA, SENIOR VICE PRESIDENT, NEW ORLEANS STEAMSHIP ASSOCIATION**

Mr. GIALLANZA. Thank you. I am Sam Giallanza, senior vice president, New Orleans Steamship Association. I am delighted that you came down to visit our port city and I express my thanks to Congressman Treen for all the help he has been to us, especially in the past 2 years when we experienced silting in Southwest Pass. He has been a big help. Thank you.

I appreciate the opportunity of appearing here today in behalf of the New Orleans Steamship Association, a trade association which has been in existence since 1912. Our association represents the steamship owners, the steamship operators, agents and stevedores that operate in the port area from the mouth of the river up to the port limits of Baton Rouge.

During the last year, 1974 calendar year, the members of our association handled more than 6,000 deep draft vessels that called at the public and private facilities along the Mississippi River from the Passes to the Port of Baton Rouge.

I will cite some statistics so that you will have a better understanding of our statement and our position. Our statement is not too lengthy.

This port area, as late as 1960, was served by only one grain elevator; today, eight elevators deliver grain to vessels with still another elevator presently under construction just above Reserve, Louisiana, and expected for completion by 1976.

The growth in number and the increase in capacity of these elevators attribute to making New Orleans the leading grain exporting port in the world. Annually, more than 1,400 vessels load millions of tons of grain at these elevators with most loadings into the larger bulk carriers and tanker class vessels, many of which are in excess of 100,000 deadweight tons. I think a question was asked earlier about the size of vessels. Well, just yesterday a vessel sailed from the reaches of the river, and this was above the Huey P. Long Bridge. This vessel had a deadweight tonnage of 118,167 and was 856 feet in length.

This morning, and you may have seen this when you flew over the port area, there was a vessel, the Canadian Bridge, of 117,613 deadweight tons and 858 feet in length. There is another vessel still in the same reaches of the river just above the port area of the Huey P. Long Bridge, of 103,225 deadweight tons and 841 feet long. So, we do have large vessels now calling at the port.

Just as with the grain elevators, this area has seen other growth of new industries settling in Louisiana along the river from Baton Rouge to New Orleans, such as the new Energy Corporation of Louisiana's tanker facility now being constructed. Within the past decade new industries, including petrochemicals have moved into this reach of the river which the Louisiana Department of Commerce estimates as more than a \$10 billion investment. Industrial growth along these banks continues and all of these complexes are and will be serviced by both deep draft ocean carriers and shallow draft vessels.

This port is also recognized as the Lash/Seabee capital of the world due to its location as a natural port for this newest concept in ocean commerce. In 1969 the first barge-carrying vessels went into service at the Port of New Orleans, and since then there has been a continuous increase in the number of barge-carrying vessels calling at this port. At this time 16 vessels of the Lash/Seabee class are calling regularly. These barge-carrying vessels have in themselves added considerably to the barge traffic in the port.

The construction of additional elevators within the past 10 years has caused an increase in the number of barges that transit the reaches of the river in the port area. The rapid growth of petrochemical complexes, many of which are served by barges, reflect a definite increase in river traffic as it relates to barges and large inland tows.

As far back as 1964, our association, in the interest of safe navigation on the Mississippi River from Baton Rouge to the Gulf, in cooperation with the local pilot associations, instituted a bridge-to-bridge voice communications system. This system, financed by our members, provided each pilot with a portable radio which has since

become an integral part of pilotage and provided bridge-to-bridge voice communications, at least between deep draft vessels.

Following the inception of this system, the Corps of Engineers and the State department of highways added similar equipment on all bridges crossing navigable channels. It must be noted that this was initiated by the deep draft vessel interests prior to the bridge-to-bridge law, which was only implemented on January 1, 1973.

The Corps of Engineers' regulations require that at certain stages of the river, the traffic lights controlling vessel movement around Algiers Point are put into effect and we have proposed the continuous use of these lights the year round due to the ever-increasing traffic in this most strategic area.

After study of the proposed Vessel Traffic Service by our Technical Committee of Captains, we are of the opinion that in view of the continuing increase in river traffic, such a service could effectively contribute to safe navigation. However, for it to be effective, the following objectives are essential:

The service should cover South and Southwest Passes and the Mississippi River up to and through the port area of Baton Rouge and the Mississippi River-gulf outlet from the sea buoy to the Inner Harbor Navigation Canal;

All vessels should participate in the service;

Each vessel should report in to the service at designated check-points in order that the vessel traffic center will be able to track the movements of all vessels, and;

It is important that the capabilities of the Vessel Traffic Center be such that the participation by all traffic would not overload the service and result in a detriment to safe navigation.

It is our position that under normal conditions a properly functioning vessel traffic service would prevent hazardous situations from occurring by recognizing them in advance. However, certain situations will occur which no human effort could avoid. To mention a few, unpredicted localized fog conditions, vessel loss of control or power, breakaway barges, localized squalls or heavy weather, or possibly an explosion or burning vessel caused by other than a collision, ramming or grounding. Under unusual circumstances, such as these, the vessel traffic center will obviously have to take a direct control of the situation and issue directives.

Such directives by the vessel traffic center should take the form of advising the vessel to slow, remain moored or anchored, or possibly to anchor as soon as conditions permit. This should only be done in extreme cases when there is no alternative, and then only when the vessel does not take appropriate action on his own initiative in a timely manner.

In view of the above, it is anticipated that in cases of such emergencies, directions from the vessel traffic center must be adhered to. Only the senior watch officer, who is an experienced mariner with sufficient experience and knowledge of the Mississippi River to enable him to render proper judgment in such situations will be authorized to issue such directives to a vessel.

I would like to say thank you for giving me the opportunity to present our position on this all-important service.

Mr. BIAGGI. Thank you, Mr. Giallanza. I would also like to congratulate you and your organization for having the foresight to

implement the bridge-to-bridge communications system long before it was mandated by law.

I would like your reaction to Mr. McNeal's and Mr. Doucet's statements that the vessel movement reporting system be instituted from the Huey P. Long Bridge to Belle Chasse.

Mr. GIALLANZA. As I mentioned earlier in my statement, we handle more than 1,400 vessels in the area of the river above the Huey P. Long Bridge to Baton Rouge; additional complexes are being built; and in recent years, the capacities of the existing elevators have been increased, all of which create more shallow draft traffic. For instance, I don't think you could put a traffic light on Canal and Bourbon Streets and only have Chevrolets obey it. I think if we have a traffic system, it has to encompass all craft to be effective.

Mr. BIAGGI. I agree on that point, but I think the contention or the premise is you don't put a cop in the middle of the desert as an analogy. You might like to have a cop every place, but you can't afford it. As to the area that is excluded from the suggestion made by Mr. Doucet and Mr. McNeal, in your judgment, should that be included?

Mr. GIALLANZA. We feel it should. I think we were extremely fortunate during the past 2 years of unprecedented silting in Southwest Pass that more serious accidents did not occur. Silting, with its related problems, is not limited to Southwest Pass only; it is also experienced at about 11 crossings of the Mississippi River above the Huey P. Long Bridge where there are changes in the configuration at the bottom of the river, the natural relocation of the channel, which I understand is not an uncommon occurrence over a 24-hour period.

In that area of the river, there are fleeting areas that service most of the facilities, and certainly fleeting areas that serve the elevators in the upper reaches of the river. So, we do have increased traffic.

Mr. BIAGGI. It is also recommended that the Algiers traffic light be put in full-time operation.

Mr. GIALLANZA. We have proposed that and we urge it. We certainly feel that any delay experienced by any of the vessels we handle is greatly offset by the safety factor.

Mr. TREEN. On that particular point, you are the second person that has recommended that they be operated all-year-round. Now, apparently it is discontinued when you don't have the high-water problem?

Mr. GIALLANZA. That is right.

Mr. TREEN. Is it really needed the other times? I mean, have you had collisions at other times that this particular traffic signal would have prevented?

Mr. GIALLANZA. I can't answer that; I am just a layman, not a pilot nor a mariner, but I have occasion quite often to be in the ITM Building and, when I look out the window and view the traffic, involving large vessels and large tows, it is assuring to have the lights in operation. The problem we have had, as we do in all of these programs, are finances and the Corps of Engineers has not been able to continue their operation due to lack of funds.

Mr. TREEN. Well, that is the point. As the chairman points out, we don't want to put cops in the middle of a desert. But if this thing would really have some value commensurate with the cost, then I for one am prepared to push the Corps of Engineers, as long as it remains

under the jurisdiction of the corps, to do this. Can you give me something a little bit beyond your statement that as you see the traffic you think it would be good? Has the Steamship Association made a study of this and made a definite decision that they would like to have it?

Mr. GIALLANZA. I think our records will reflect that we had requested the Corps of Engineers a number of times in the past years that the time be extended which they did.

Mr. TREEN. Extended up to 6 months the last 3 years?

Mr. GIALLANZA. Well, this is right, and due to the—

Mr. TREEN. You want it all year round is what I am saying?

Mr. GIALLANZA. This is correct. I think that the pilots who are here in this room could perhaps answer that question better than I can, but we certainly feel that it is a good safety precaution.

Mr. TREEN. I think we are going to have a pilots' representative. Thank you, Mr. Giallanza.

I did have one more question. Do the shipowners represented by your association, have they ever indicated any problems with the barge fleets that extend out into the river a pretty good distance? I saw one fleet of barges that looked to me like it occupied about 30 percent of the width of the river, which I had never seen before.

Mr. GIALLANZA. Yes, we do have problems. If you had occasion to fly over the inner harbor navigation canal, you would wonder how they could put a skiff through it, much less a vessel, and this is not a barge fleeting area, but just an accumulation—perhaps a barge is being repaired.

Mr. TREEN. I am referring to the fleeting in the river. This was upriver, probably at Jefferson Parish.

Mr. GIALLANZA. We have not had any great problems, with the extension of the fleeting area channel wide as far as the deep draft vessels go. Before a fleeting area goes in we, of course, receive a notice from the Corps of Engineers that a request for permit has been received from an applicant. This is reviewed by our technical committee of captains, all of whom hold master licenses, and a determination is made as to whether or not they feel that it would create any navigational hazards.

Mr. TREEN. To fleet at that point?

Mr. GIALLANZA. To fleet at that point.

Mr. TREEN. I am talking about the stacking of barges alongside each other way out into the river. Do I understand that you haven't had any complaints by your shipowners?

Mr. GIALLANZA. This is right.

Mr. TREEN. OK. Thank you.

Mr. BIAGGI. Capt. David Wheat, the president of the Crescent River Pilots Association. Captain, before you make your comments, you were in the room when we were questioning Mr. Giallanza regarding the area above the Huey P. Long Bridge. In your judgment, do you feel the vessel traffic system could be justified and installed upriver?

#### STATEMENT OF CAPT. DAVID WHEAT, PRESIDENT, CRESCENT RIVER PILOTS ASSOCIATION

Captain WHEAT. Mr. Chairman, the area north of the Baton Rouge—the Huey P. Long Bridge is out of my piloting territory, so I would rather not comment on that, but I would comment on the

lower part of the river. If you have any questions pertaining to that, I would be glad to answer them.

Mr. Chairman, Congressman Treen, and members of the staff, my name is David Wheat.

We are river port pilots for the lower Mississippi River and the Port of New Orleans. I would like to speak in behalf of the ad hoc steering committee that I happen to be the chairman of. This committee was formed some 3 months ago through our port safety council, in other words, an informal committee.

It was made up of some 60 members, roughly, of all sections, shallow draft, deep draft vessels, and a cross section of the industry and the port and river and canal areas.

Out of the steering committee we formed small working committees, we formed five subcommittees. One committee is in feasibility, one in areas, one in communications, one in operations, one in mandatory professional men. These subcommittees were chaired by outstanding professional men. They submitted reports to the steering committee and we have this process in motion to go back to the district commander with the final report sometime prior to the 15th of October.

As I mentioned earlier, with permission of the district commander, he would like to submit a copy of this report to your committee, Mr. Chairman.

Mr. BIAGGI. I would be delighted to receive it.

Captain WHEAT. That is the end of my statement. I would answer any questions on the lower Mississippi River pertaining to the VTS system.

Mr. BIAGGI. I noticed you were sitting here throughout the hearing, Captain, and I think we have come down to several points that seem to be in contention. I would like your reaction to the extra channels in the radio communications.

Captain WHEAT. It would be, in my opinion, impossible to monitor three channels. I think it is not practical to have to do it anyway. I believe it was well covered that if channel 16 can be eliminated, then we can operate very efficiently on channel 13 and the sector channel.

Mr. BIAGGI. As to the Algiers traffic light, that is recommended for full-time operation.

Captain WHEAT. The Algiers traffic light, if we put it on tomorrow, we would be 1 day too late.

Mr. BIAGGI. That is succinct and informative.  
Congressman Treen.

Mr. TREEN. That was my question, about the traffic light system. Have you had any casualties in the last several years involving Algiers Point during the time that the signal system was not operative?

Captain WHEAT. Mr. Treen, we had a casualty in 1969, that I have always believed—that was on Easter Sunday 1969, with the *Union Faith*, and I have always believed that had the traffic light been in operation, the casualty would have never occurred. Several people lost their lives, including one of our pilots and a ship was lost and the expense—which I am not familiar with, I'm not sure what the expense of operating a traffic light would be within the system the corps has, but it is a very effective system and I think if you could prevent one casualty, that it would be well worth it.

Mr. TREEN. You think it would be a very beneficial factor to have it all year round?

Captain WHEAT. I do. I think it would be not only a safety factor, I think it would more or less expedite our work a lot because we have a lot of ships in that area that have to turn and turn downriver to proceed to sea or to other berths and by having that light in effect in that particular area of the river, it's a great aid to pilots and to the mariners.

Mr. TREEN. All right. Thank you, Captain.

Mr. BIAGGI. You couldn't testify to the value of the traffic system upriver. How about the lower river?

Captain WHEAT. Mr. Chairman, I believe that we need a system in the Port of New Orleans and at the Pilottown and Southwest Pass area. If you have a system, I'm a firm believer that you should have a system and remain in it. I don't believe it would be feasible to get into a system and out of a system, into a system, out of a system. I would prefer to have it all the way on the Lower Mississippi River from the Gulf of Mexico to the Huey P. Long Bridge.

Mr. TREEN. Where do you take over, from Pilottown to the Huey P. Long Bridge?

Captain WHEAT. That's right.

Mr. BIAGGI. All I know, Captain, is that I have been listening to some stories at lunch being told by river people and people in the industry and I marvel at the way the pilots perform almost magical maneuvers coming upriver and downriver with these vessels. We are grateful to you for your testimony today and for your very incisive response to pertinent questions. Thank you very much.

Captain WHEAT. Thank you, Mr. Chairman, for the privilege.

Mr. BIAGGI. Mr. Robert L. Gardner, Alter Co., Davenport, Iowa?

#### **STATEMENT OF ROBERT L. GARDNER, ALTER CO., DAVENPORT, IOWA**

Mr. GARDNER. I must at the onset apologize for the quality of the copy. I opened my briefcase in St. Louis yesterday and realized I had left it at home, so this came over the wire this morning.

Good afternoon, Mr. Chairman, Counsel, Congressman Treen. Thank you for the opportunity to testify before you today. My testimony is rather lengthy, as you can see, and I have been asked by Congressman Treen to paraphrase or summarize whenever possible.

My name is Robert L. Gardner and I represent Alter Co., 2333 Rockingham Road, Davenport, Iowa. We are a leading scrap merchandiser and commercial barge line officed in Davenport, Iowa.

We have terminals along the Mississippi River from St. Paul, Minn., to and including the Port of New Orleans, La. The latter installation operates under a subsidiary name of Alter Fleet, Inc. and is engaged in commercial fleeting and switching in and around the New Orleans Harbor.

My capacity with Alter Co. is port captain, which carries the responsibility of operations of all its 212 barges and 7 towboats. I furthermore am responsible for operations of remote locations such as the local one here as Alter fleet. I am a graduate of Western Kentucky University and currently hold a U.S. Coast Guard first class pilot

license, any gross tons, for portions of the lower Mississippi River with endorsements for operator on western rivers and waterways. I have been employed in the river trade since 1955, and have served in many and varied functions.

The next portion of my testimony deals primarily with the area that Alter Co. serves and the intent of this piece of testimony is to indicate to the committee that this is not just a local issue, but rather an issue that has national implications. Any delays that occur to our vessels in the movement of phosphate rock coming out of Tampa, Fla., which we move a great deal of; in the movement of grain into the area simply causes the barge freight rates to increase and thus pass it on to the consumers. This would affect farm produce originating in Wisconsin, Iowa, Minnesota, and points north of New Orleans.

If delays, as a result of mandatory vessel traffic controls, are incurred and cost of transporting fuels for generation stations in Iowa and Wisconsin will be substantially increased, resulting in higher electric power cost to citizens in these communities.

As a first class licensed pilot and with the operational knowledge of Alter Fleet, Inc. in the area, my company must take the stand of being opposed to the implementation of a vessel traffic control system in the New Orleans Harbor as proposed. The system itself is non-workable due to many technical reasons and highly unnecessary.

Furthermore, I would like to charge the U.S. Coast Guard with misuse of powers granted to them by the Ports and Harbor Safety Act of 1972. The misuse pertains directly to the procedures and reasoning behind the proposed VTS for the New Orleans area on the Mississippi River.

On August 4, 1975, I received in my office a Department of Transportation Coast Guard local notice to mariners issued by the 2d Coast Guard District dated July 29, 1975. In this notice, the U.S. Coast Guard informed the public that they were in the process of developing regulations under which a vessel traffic system would operate in the Port of New Orleans from the sea buoys at South Pass to mile 243 above head of passes.

The notice indicated an ad hoc steering committee had been chosen from a wide cross section of the marine industry to review and make written comment to the U.S. Coast Guard concerning a draft proposal for the VTS regulations. On August 19, 1975, the ad hoc steering committee, to which I was added as a member, held its first meeting to discuss and review the proposed regulations and discuss problem areas that had been outlined by Comdr. Ransom K. Boyce, commanding officer, U.S. Coast Guard, New Orleans vessel traffic system.

It was decided at this meeting that the system needed a broader base for the discussion, that there were too many members, and as Captain Wheat testified, the committee was broken into five subcommittees and the subcommittees then were to go off and meet prior to another meeting of the ad hoc steering committee, which was held on September 23, 1975.

During our initial meeting, several questions were put to the officers in attendance. I believe the highest ranking officer in that meeting was a lieutenant commander, and to my knowledge, the industry has not had the opportunity to discuss with an officer of the Coast Guard of any high rank the problems involved in this system.



One question was was there to be an economic impact statement done for the proposed VTS regulations. The answer was that Washington had been questioned in this matter and they decided that none was necessary.

A second question posed to the U.S. Coast Guard was could the ad hoc steering committee have a 90-day extension on submitting comments for the draft proposal. The committee was answered with a comment that more than likely no such extension would be granted since the computers and hardwares needed for the VTS in New Orleans more than likely had already been placed on order.

I have since learned—I don't know how factual it is—that this equipment has been placed on order, bids have been out for many months.

At this point it became obvious to me and many others on this committee that we had been invited to New Orleans, a great distance from our homes, to participate in an ad hoc committee that was supposed to advise the U.S. Coast Guard on the draft proposal and operational problems with the vessel traffic control system, only to have had these questions already answered prior to us ever leaving home.

The shape of things continued to become clear after receiving Adm. Owen W. Siler's letter to GAO answering to the Coast Guard's position to the Comptroller General's recommendations. Also contained in the letter were GAO's recommendations. In this letter the ad hoc steering committee was given the first black and white information as to what was the basis for the need of the vessel traffic control system other than the one that presently exists in the New Orleans area.

The basis is said to be a 1973 Coast Guard study report entitled "Vessel Traffic Systems Analysis of Port Needs." There have been no copies of this report made to members of the ad hoc steering committee as of this writing. I was fortunate, however, to obtain a Xerox copy from another source and found that this report began two years prior to the passage of the Ports and Harbor Safety Act in anticipation of its passage. The information contained therein is inaccurate, misleading, and not current.

The date of Admiral Siler's report to GAO is unknown to me. However, I must conclude it was composed many many months prior to the establishing of an ad hoc steering committee. In the writings found on page 5 of this report, Admiral Siler indicates that "The Coast Guard does provide adequate consultation, comment, and coordination with local marine interests as specified by the Ports and Waterways Safety Act of 1972." It is obvious to me—

Mr. TREEN. Are you referring to the report by Admiral Siler on the GAO findings and recommendations?

Mr. GARDNER. Yes, sir.

Mr. TREEN. The fifth page of that?

Mr. GARDNER. Yes, sir, I am.

Mr. TREEN. For your information, the date is February 1975—it looks like February 25, 1975—if that helps you.

Mr. GARDNER. Thank you, sir. I don't know if it does or not.

Mr. TREEN. You were reading from page 5?

Mr. GARDNER. I was reading from page 5, yes, sir.

Mr. TREEN. What part of page 5?

Mr. GARDNER. I don't have that. The quote is taken from there—

Mr. TREEN. I see it now.

Mr. GARDNER. Okay, sir. That does confirm that it was written—my opinion that it was several months prior to the ad hoc committee being formed, if it was written on February 25.

Recommendation No. 4, and this recommendation is a GAO recommendation, found on page 10 of Admiral Siler's letter, is:

Give national emphasis and direction to establishing regulations as authorized by the 1972 act to control vessel traffic, including more extensive use of speed limits; greater regulation over the movement of vessels carrying dangerous, combustible and polluting cargoes; and limiting the size of tows.

Admiral Siler says:

The GAO report stated that the Coast Guard had made limited use of its authority under the Ports and Waterways Safety Act to issue regulations for the control of vessel movements, and identified control of vessel speed, control of the movement of vessels carrying hazardous or polluting cargoes, and control of tow size as regulatory measures expected to be effective for prevention of accidents. The promulgation of regulations was stated to be the measure least costly to the government for reducing accidents through control of vessel movement.

It becomes clear that we have a battle between GAO and the Coast Guard over funds for hardware to be used for VTS in New Orleans. The people being caught in the middle of this battle are the waterway user and eventually the American public. GAO is saying, "Cut your spending and start regulating."

On page 11 of Admiral Siler's report, he says:

The development of a regulation is an exacting process which requires care in the identification of the problem to be corrected by means of the regulation, recognition of varied geographic and operating conditions, and appreciation of the impact of the regulation on the public affected, including the broad economic effect of the measure, and, finally, definition of the corrective regulation. Presumably in recognition of these factors, the Ports and Waterways Safety Act contains a provision for consultation and comment by interested parties in preparation of proposed regulations; this is in addition to the requirements of the Administrative Procedures Act.

I charge once again that the U.S. Coast Guard, by the use of such verbage, is trying to convince GAO and others that they have complied with the terms of the development of regulations as outlined in the Ports and Harbors Safety Act when, in fact, they have not. Statements such as the above are numerous and were written long before any such action was ever begun.

What we have here before us is a whitewash. A number of years ago a vessel traffic control system was conceived and a study begun to establish data for its basis. I would like to charge the U.S. Coast Guard with the misuse of power in its endeavor to establish a vessel traffic control system in the New Orleans area. The charges are numbered as follows:

Gathering of information to be used as a basis for VTS prior to the enactment of the law which would give the Coast Guard authority to act.

No. 2, failure to study economic impact and effects as prescribed by the Ports and Waterways Safety Act of 1972, Public Law 92-34086, statute 426C5.

No. 3, failure to comply with the Ports and Harbors Safety Act, statute 426C in carrying out his duties and responsibilities under this

title to promote the safe and efficient conduct of maritime commerce, the Secretary shall consider fully the wide variety of interests which may be affected by the exercise of his authority hereunder. The interests referred to in this law have only very recently been contacted for consultation and the works of the committee established for that purpose have only begun.

No. 4, the U.S. Coast Guard has placed on order and spent Federal moneys for equipment to be used under regulations yet to be established. The \$4.4 million involved in this equipment was spent prior to a realistic need being shown for the system or consideration as to its design as required by law.

No. 5, the forming of an ad hoc steering committee is being used as a whitewash to cover up for statements earlier made by Admiral Siler and referred to in this writing that the Ports and Harbors Safety Act required consultation and input from a variety of interests which may be affected by the exercise of his authority. The workings of this committee are designed to be powerless and to be used to satisfy a legal requirement.

In summary, a vessel traffic control system, as proposed for the New Orleans Harbor, is not needed. There is no basis for the needs of such a system, as the one currently in operation is working extremely satisfactorily to all shipping interests. If the U.S. Coast Guard wishes to spend money and time to prevent damage to, or the destruction or loss of vessels, bridges, or other structures on or in the navigable waterways of the United States, it should concentrate on doing the jobs it has currently undertaken well, prior to moving into newer and more sophisticated endeavors.

The \$4.4 million to be spent for a vessel traffic control system in the New Orleans Harbor with an annual operational budget of \$900,000 is ridiculous. These funds could be put to use in areas with far greater benefit to the waterway community and the nation than in a VTS as proposed.

If efforts were to be channeled towards using the existing vessel traffic control systems in the New Orleans Harbor and promoting the proper use of vessel bridge-to-bridge radio telephone, then a safety factor would result from a minimum of expenditure and effort on the part of the U.S. Coast Guard.

I would like to make one other comment, if I could, Mr. Chairman. In regard to the subject of the bridge-to-bridge radio telephone that has been discussed quite a bit, it has been said in several of our meetings involving the communications aspects of VTS, when we asked them the question, asked the Coast Guard: "How do you propose to clear these channels that you have elected to use in the VTS, because it is obvious that these channels have to be clear for vessel traffic control communication and can't be used for other port needs at the same time?" The Coast Guard's answer to this question, sir, was that "The mere presence of the Coast Guard," that they have found, like in Houston, that "The mere presence of the Coast Guard in a monitoring function serves this purpose and does, indeed, police those frequencies for the use that they are intended." My question is why, why cannot these moneys and the efforts of the U.S. Coast Guard be put into effect in that area to police our existing vessel traffic system, the Radio Telephone Act, why can't these efforts be channeled in that direction which is far less costly than the proposed system?

They have a radio network capable of doing this. If their findings are that, why is there such an impelling need to spend all of this money? As Admiral Barrow indicated, the proposed regulations say that the pilot is not admonished from any responsibility that he might have for the safe navigation of his vessel, regardless of what the VTS tells him or may direct him to do, it is his final responsibility.

Mr. TREEN. "Absolved" or "admonished"? You said, "admonished."

Mr. GARDNER. Absolved, I'm sorry. The final responsibility rests with this pilot and it is only through the eyes and ears of this pilot that the person giving the orders in the VTS will obtain the information necessary to direct traffic except through the localized use of low level television, et cetera. The computer is not an exacting process whereby there is going to be transponders placed aboard these vessels, and this type thing. It is still dependent upon the information coming from the bridge of that vessel.

Mr. BIAGGI. That is it?

Mr. GARDNER. That is it. Do you have any questions?

Mr. BIAGGI. Your summary is quite extensive and you make any number of charges. I would appreciate it if you would give Admiral Barrow a copy of the statement, so that he can provide this committee with responses and explanations to them. You have been in the room while the people have been testifying. A number of them have testified as to the desirability of the system and they apparently have expertise and have indepth experience in safety. How do you account for the wide variance in opinions and the conflicting positions?

Mr. GARDNER. I can't really speak for their opinions. You have several interests involved here. You have deep water interests and you have shallow water interests and I think from the testimony that I have heard today that the deep water interests favor a vessel traffic control system and the shallow water interests do not, as proposed, sir. I am not saying, and I would like to go on record as saying that I am not outright opposed to some form of vessel traffic control, but not as proposed.

Mr. BIAGGI. Well, how do you feel about deep water control?

Mr. GARDNER. I beg your pardon?

Mr. BIAGGI. Deep water vessels, VTS for deep water vessels.

Mr. GARDNER. How do I feel about them?

Mr. BIAGGI. Does your position change or do you just oppose it on the shallow—

Mr. GARDNER. No, sir. What I am opposed to primarily, and from my statement I did not address myself to the things that you asked us to address ourselves to at the beginning, sir, but I didn't know that is what you wanted me to address. The details of the system and how things work, you know, like for example, Admiral Barrow touched on the points and bends system. I don't think he accurately described that system. That is a safety system, that is not a system that was designed or used to speed up vessels by catching slack water. Actually you give up a lot of slack water in using the points and bends system. But this is a system that has been locally worked out between deep water interests, basically—well, both, deep water and shallow draft interests—and works rather well, and it is a safety measure. It is not designed to speed things.

So I feel as though that we are in a position, the barge line carriers, to have our tows cut and drafts limited much easier, sir, than a deep draft vessel is because you can't cut a deep draft vessel in half, but we can be required to drop barges. Our barges are small units, as you understand.

I think that leaves us wide open to someone making that decision and critically curtailing operations at a great expense to the consumer.

Mr. BIAGGI. Are you suggesting that you have no limit on the number of barges that you should be towing?

Mr. GARDNER. I am suggesting that that is—yes, sir, that there be no limit on the number of barges that a vessel may carry. This industry has been existing for many, many years with an excellent safety record, and we, I think, are the experts in that area as to how many barges a vessel can safely handle. You see, the one thing that people very seldom indicate is what dictates this to us. What dictates this to us is profit or loss, and we can't make money having accidents.

Mr. BIAGGI. That is true, but you don't function under the theory that you are going to have accidents. You function under the theory that you will not have accidents and all things being equal, we let the carriers carry as many barges down or upriver as possible.

Mr. GARDNER. Safely.

Mr. BIAGGI. Of course. But the fact is there have been a number of accidents.

Mr. GARDNER. Yes, sir, I realize that. There have always been accidents on the river. There are accidents on the highways. Mr. Nader—

Mr. BIAGGI. We put up lights, we install safety—

Mr. GARDNER. The point I am making is there is always going to be an element of risk, sir, and the car, I think, is a good example. Mr. Nader thought the American public wanted to buy that, but people didn't and they are willing to risk their lives by not wearing a crash helmet inside their automobile because it is inconvenient. There is always going to be that element of risk, but we think that this job is being done rather well, and if there were a basis for this, sir—I am charging that this is not a good basis for such an expensive, elaborate system. If there were a reason for it, then I would have to go along with it.

Mr. BIAGGI. All right, you certainly raised some interesting points and the committee will certainly look into it and give it very serious consideration.

Congressman Treen.

Mr. TREEN. Thank you, Mr. Chairman, There was one charge that I am not going to comment on, although I think you must know that I am concerned about the consultation provisions. I think we are going to try to get some explanation on that from the Commandant, or from the Secretary of Transportation, actually.

But your charge No. 1 of "Gathering of information to be used as a basis for VTS prior to the enactment of the law which would give the Coast Guard authority to act." I don't see that this is any abuse or anything, gathering information before—

Mr. GARDNER. Let me apologize once again, and I guess you put me under fire for my words there, and I would do this, but the intent behind that was to show how old it was and when the information

was gathered and that the thinking for a VTS has been around an awfully long time.

Mr. TREEN. In other words, you are charging that they are not using up-to-date data?

Mr. GARDNER. That's correct, that's absolutely correct.

Mr. TREEN. You said, Mr. Gardner, that you approved the system that is in operation now. You don't approve the proposed system. Now, what do we have now in the system that you approve of specifically and what are the items in the proposal that you don't approve of?

Mr. GARDNER. OK, sir. The system at present that has been discussed is the control light at Algiers Point. I am told—

Mr. TREEN. That has been there since 1952.

Mr. GARDNER. It has been there a long time and I approve of that system.

Mr. TREEN. Don't we have some low level television there?

Admiral BARROW. Not yet. Some bridges have them.

Mr. GARDNER. When I refer to a system, sir, you mentioned earlier—one of you mentioned earlier—that you noticed that there were a lot of arteries flowing into the river and you asked Admiral Barrow, you know, there's no system. Yes, sir, there is a system and the system I am referring to are the laws and regulations that apply to the pilotage of a vessel, including the Radio Telephone Act. When one of you made the comment that when approaching a sharp bend you have virtually—you don't really know what is coming around that bend, if the act was being followed, you would. This is the system that I am referring to, sir.

Mr. TREEN. The bridge-to-bridge radio was enacted in the law several years before this, in 1971. I don't consider that part of the VTS system—

Mr. GARDNER. That is what I am describing as a vessel traffic control system in connection with the rules of the road. You understand you have rights-of-way and it becomes—one vessel is under the law required to hold and stay clear of other vessels under certain circumstances and this is all very clearly defined by the rules of the road.

This is the system to which I am referring. That is a vessel traffic control system in my mind that is adequate.

Mr. TREEN. What you don't want is all of this team of people, this computer and the monitoring system. You just feel that that would be a waste of money?

Mr. GARDNER. Yes, sir, as proposed.

Mr. TREEN. Do you think it would impose an economic burden on industry?

Mr. GARDNER. Yes, sir, I do.

Mr. TREEN. But I think the size of the tows can be controlled by regulation without respect to vessel traffic systems, if that is one of your complaints.

Mr. GARDNER. No, that is correct. The act—well, the act gives the Coast Guard broad authority to do that.

Mr. TREEN. We don't have to set up a vessel traffic system to adopt a regulation about the size of tows, and I think that apparently is one of your complaints, isn't it?

Mr. GARDNER. It is my complaint that that would be done, sir, as testified to, under extreme conditions, and what worries me is who

is going to be making that decision and the quality and the caliber of the individual that will make that decision at the time. It has to be a spot basis. The captain of the port, for example, can halt every bit of traffic in that harbor. They stopped traffic at Vicksburg Bridge and I didn't even know their district went up to the Vicksburg Bridge until they stopped it, and he has that power, but the captain of the port is not going to be sitting behind that vessel traffic control system monitor, as proposed. That is going to be a duty officer of some sort and his information that he receives is coming in from various means and I question whether or not this person would have the ability to make such a judgment and then limit the size of my tow, tell me to tie up, stop, or what have you.

Mr. TREEN. Well, your company, is a big operator and there may be some smaller operators willing to gamble on this a little bit more. I would like to think that, being a free market advocate, the economic consideration of individual companies will force the safety. Your insurance rates are going to have an affect on you. On the other hand, the Southern Pacific railroad bridge crossing the Atchafalaya River between Morgan City and Berwick has been hit how many times? Over 100 times?

Admiral BARROW. Over 500 times.

Mr. TREEN. Over 500 times by tows and the economic impact of that has got to be pretty bad on these companies.

Mr. GARDNER. I would agree with you 100 percent.

Mr. TREEN. I get calls from constituents every time that bridge gets knocked out or a chlorine barge gets lodged up against it. That illustrates to me that the economic impact isn't always sufficient to regulate. A small VTS system there apparently has helped a great deal.

Mr. GARDNER. I am not that familiar with it, but I understand it has.

Mr. TREEN. Do you operate on the Atchafalaya?

Mr. GARDNER. No, sir, we do not. It is my understanding that the system there and at Houston is a good system.

Mr. TREEN. It is a small VTS system, and I think Admiral Barrow will confirm, and the record shows it has been very effective. I have often wondered why, with all of those losses, the towing industry itself didn't do something about it. Now you can't answer that because you don't operate on the Atchafalaya.

Thank you, sir.

#### **STATEMENT OF JAMES GUNDLACH, CANAL BARGE CO., NEW ORLEANS, LA.**

Mr. GUNDLACH. I just wanted to make one statement about that last statement—

Mr. TREEN. Just one moment, I don't think you have been identified for the record.

Mr. GUNDLACH. I am James Gundlach with Canal Barge Co. of New Orleans.

Members of the towing industry that do operate down the Atchafalaya River for years have been proposing to the Coast Guard to put in some vessel traffic advisory in Morgan City. It was finally adopted

just recently after many months and years of our insistence that this would help.

Mr. TREEN. Thank you for adding that.

Mr. BIAGGI. Mr. Norman Antrainer with the Fer River Towing Co., New Orleans, La.

**STATEMENT OF NORMAN ANTRAINER, FER RIVER TOWING CO.,  
NEW ORLEANS, LA.**

Mr. ANTRAINER. Gentlemen, my name is Norman L. Antrainer, port captain with the Fer River Towing Co., New Orleans, La.

Our company operates 175 dry cargo barges and six river towboats ranging from 800 to 5,600 horsepower. We navigate from mile 60 ahead of Pass below New Orleans north to all points on the Mississippi River system, hauling millions of tons yearly in grain products to export elevators. This is done in 38,000 cargo ton units, 1,100 feet long and 175 feet wide, dead weight 44,515 tons.

As operators in the New Orleans and Baton Rouge area, we are opposed to any additional vessel traffic system, reasons forthwith.

The marine industry, the U.S. Coast Guard and the FCC have ample regulations at present to improve safety and promote good seamanship. Additional regulations will confuse all interests. Economic losses due to unwarranted vessel lost time would be disastrous to companies such as ours.

Mr. BIAGGI. Excuse me for interrupting, but that is the second time that has come up and I didn't propose any questions to have it elucidated. The implication of that statement, or you might say almost a direct statement, charges that this vessel traffic system would cause delays.

Mr. ANTRAINER. Yes, sir.

Mr. BIAGGI. Would you please tell us how?

Mr. ANTRAINER. For example, if a northbound ship was proceeding to Baton Rouge and the VTS told one of my tows to hold up, it would take us—we are moving 13 miles an hour, it would take us probably close to an hour to get that thing settled down and backed into a bank somewhere to where that ship could get up around the point, and then we have to pull back out in the river and drop down and probably have to swank, that's a maneuver that big tows use, floating with the current, take additional time. So many times of this and it just adds up to excessive lost time.

Mr. BIAGGI. Why would VTS order you to do that?

Mr. ANTRAINER. If they felt the ship had the right-of-way and needed to navigate the bend before we got there, even though we might have right-of-way because we are southbound vessel.

Mr. BIAGGI. I would like to ask Admiral Barrow. Now we require the expertise and I don't possess it, but why would VTS stop a tow as described by Mr. Antrainer?

Admiral BARROW. I think he is really reaching for an excuse. I can't see this thing at all. The only possible reason to slow anybody down would be that if you have two vessels trying to occupy the same space at the same time. If, indeed, we don't facilitate traffic on the river as a result of this VTS, we will not be doing our job. I can't see slowing traffic down.



Commander BOYCE. One comment. It is our proposal that all passing situations will be originated by the two vessels involved. We do not concern ourself with the lateral position of the vessels, in other words, left or right of the river. We do not anticipate ever having any consideration for that and the situation stated here would be the responsibility of the two vessels on channel 13 to originate their own passing signals and if it came to the point where it is obvious they could not reconcile, in other words, we would be monitoring 13 and if they could not satisfactorily reconcile it, hopefully we might be able to take action and direct one of them to hold up and, again, the extreme case and not the normal course of action contemplated.

Mr. BIAGGI. Is it your contention, Admiral, that the system would expedite rather than delay?

Admiral BARROW. I am certainly—that is one-half of the purpose of the VTS, and that is to facilitate, to make it move smoother, to prevent pileups of traffic in specific situations.

Mr. BIAGGI. Captain Wheat, are you in a position to make an observation on that point?

Captain WHEAT. Well, he mentioned the fact that he was southbound with a heavy tow and a northbound ship—I think he has got his story backward. I think the northbound vessel would be the one to hold up. That is the way we work on the lower river, maybe he is up above Baton Rouge.

Mr. ANTRAINER. Correct, that is the way it does work, but under this VTS, unless you have someone in that office that actually knows what the rules of the road are for the western rivers, and so forth, what do you know what is going to happen?

Mr. BIAGGI. I don't think it is expecting too much to expect that somebody in the office will know the rules of the road.

Mr. ANTRAINER. I hope so.

Mr. BIAGGI. Is there any possibility that—

Mr. ANTRAINER. I don't think these gentlemen understand the Algiers traffic light, if what they are saying they are not going to regulate the vertical movement or the passing of the vessels. The Algiers traffic light does just that, it holds traffic at one side of the Algiers Point so other traffic can pass around the point. They do it on a regular rotation basis, northbound moves, stopping southbound traffic, and southbound moves after northbound traffic has moved.

Mr. BIAGGI. You are not the first witness, you are the second, perhaps the third, that may have raised it. Admiral, I think that is an important point that bears some extra attention. For the record, we would appreciate your providing the committee with the information clearing up that point and stating your position as contrasted to the assertion here, that is, whether or not this system would expedite rather than delay.

Captain Wheat, we would appreciate a comment for the record on this point from you and your association, also, whether or not the proposed system would delay or expedite because obviously we have an economic factor in delays.

Captain WHEAT. Sir, I really—it is hard to answer a question like that because it is new. We have never had a system like this before. The system has been a system that we have made of our own to a certain extent, however, the Algiers traffic light which is operated

at certain periods of the year, and I don't really think we could consider that a delay because basing it against the safety side, I wouldn't consider it a delay.

Mr. DOUCET. Sir, may I say something to this point here? We have been talking today about the safety of navigation and everybody in this room considers Algiers Point traffic light the biggest safety factor we have got here in the New Orleans Harbor, and we would like to see it 24 hours a day, 365 days a year, yet you do have lost time at the Algiers traffic light, but it is one of the biggest safety—any time you deal in safety, you have got to deal in lost time. But your lost time—your safety is a heck of a lot better than lost time.

Commander OBERHOLTZER. I think one of the factors is that the lost time in the event of a catastrophic accident or in the event of any accident has to be taken into account. The amount of lost time and economic impact of any type of accident is going to far outweigh the losses that might be delayed by such as the Algiers traffic light.

Mr. BIAGGI. That may appear to be on its face, but if you have a sustained run of continued losses, the accumulative effect could almost equal perhaps a catastrophic loss.

Mr. ANTRAINER. The personnel in the U.S. Coast Guard of the VTS would need extensive training in river navigation at the taxpayer's expense. River navigation versus ship navigation are different in many respects and I feel that whatever—if the system does come into effect, we need these people in the VTS to understand what is involved in river navigation. Deep sea navigation or shipping is—there is quite a difference.

Mr. BIAGGI. Well, I think there is no question about that, and I am sure that is one of the reasons why all portions of the industry should have constant communication with the Coast Guard and Admiral Barrow, on a formal basis if necessary. At least, the input is essential if we are to come up with a final product that is compatible with all interests. Thank you very much.

Mr. Stephen Lambert, Greater New Orleans Expressway Commission.

#### **STATEMENT OF STEPHEN LAMBERT, GREATER NEW ORLEANS EXPRESSWAY COMMISSION**

Mr. LAMBERT. Mr. Chairman, Congressman Trene and staff, thank you for the privilege of being heard by you all.

I think any study about marine safety, Mr. Chairman, you might not be familiar with the Lake Ponchartrain, but I think any discussion of marine safety should include the problems we are having out there. Before I get a poisonous dart in the back of my neck, I want to say that the commission wants to be a good neighbor to the marine industry, but with our lake, I think they will agree, is capable of being quite treacherous under certain conditions. Let me go into my introduction—

Mr. TREEN. Explain to the chairman that you operate the bridge across the lake.

Mr. LAMBERT. Right. I live at 100 Green Acres Road, Metairie, and I am in Congressman Treen's district, and I am a member of the Greater New Orleans Expressway Commission which is also known

as the Causeway Commission. It is the legal authority which administers the operations of the 24-mile-long causeway toll bridge across Lake Ponchartrain. It is the longest bridge over water in the world.

I have been a member of this commission only about 2 months, having been appointed after the accidental death of my father, who was chairman, on July 27. He had been chairman for 12 years.

Although I am a newly-appointed member of the Commission, all of my family has been living with the trials and tribulations of the causeway, nearly since its inception. Furthermore, all of us are proud of the fact that under my father's leadership the toll bridge has become one of the most successful type operations in the country.

At this point, if you don't mind, I would like to show you, Mr. Chairman, so you may familiarize yourself with these copies of press clippings on barge rammings and you all can look through them during my talk.

My purpose for appearing here today is to urge you to include the Lake Ponchartrain area in the Port of New Orleans Vessel Traffic System. If it is not practical to include the lake area as an integral part of the Port VTS, then a separate subunit VTS should be set up for Lake Ponchartrain, all under the jurisdiction of the Commander of the 8th Coast Guard District.

Gentlemen, I fully understand that the criteria used to establish the priorities for the installation of the vessel traffic system include: 1, tonnage of cargo; 2, number of vessel transits; 3, number of vessels involved in collisions, rammings and groundings. These criteria were stated in an August 1973 report entitled, "Vessel Traffic Systems, Analysis of Port Needs."

I submit that not only have these criteria never been applied in a serious analysis of the Lake Ponchartrain marine traffic by Federal agencies, but also as Congressmen you should take an overall view, perhaps from the standpoint of the Department of Transportation itself, which is over both the U.S. Coast Guard and the Federal Highway Administration.

If anyone had bothered to look into the marine problem, they would have found that there are over 15,000 barge tows a year crossing through the marine openings in the causeway, each of which has the potential to knock the bridge out of service, and kill people in automobiles who are using the bridge.

I know that Congressman Treen is very familiar with the series of tragic accidents which have occurred over the past 15 years or so, all of which have been a direct result of irresponsible and unregulated marine traffic in Lake Ponchartrain. However, for those of you who may be unfamiliar with these occurrences, I would like to go over a few highlights of news stories covering these tragic events. You all have them and you can see it is a pretty ghastly sight from those pictures. I repeat, these have not been responsible marine operators. We have had problems with men sleeping, nobody awake on the tow, just heading for the causeway until they finally hit it. I must comment, at this point, that it has been sort of proven out that the equipment and manpower operating on the river tends to be of a much better grade than that operating in the lake.

Now, only last week, in the dark at 5 in the morning, a barge tow was attempting to cross through one of the marine openings in the

causeway in high seas which were a result of weather systems in advance of Hurricane Eloise, when a cable securing the barges together broke and the fender systems and navigation lights were damaged. In other words, these tows—barges—were apparently out in front of the tug and one of the cables broke, allowing it to jackknife into the fender system. If the seas were that bad and it had happened a half-mile out away from the bridge and turned all of the barges loose, we might have killed no telling how many people.

As a matter of fact, the causeway commission—and this is how we found out, the causeway commission received notification of this from a ham radio operator who happened to be monitoring the marine band and called the causeway office when another tug captain reported the navigation lights out.

Fortunately, there was no structural damage to the bridge itself, but the real point is that this barge tow should never have been attempting to cross through the causeway in weather like that and certainly not at night. Gentlemen, this is a very common occurrence.

Another incident which might hit home with Mr. Treen, knowing the problems we have had with hurricanes, on the Sunday morning before the Monday that Eloise could have possibly hit, we had a tugboat out in these same rough seas beginning to have trouble. He lost power and eventually rolled over and sunk, almost taking down two other vessels that were trying to assist him. That vessel stayed there and as of Monday at 5 o'clock when we were forced to close the bridge and build a levee across the entrance to protect the levee system from the high water, that tug was still out there and buoys out in the gulf—

Mr. TREEN. Where was it with relation to the causeway?

Mr. LAMBERT. 500 yards off the east side of the bridge, just about 6 or 7 miles out. The wave action of Eloise recorded by the U.S. Weather Bureau, which, thank God, didn't hit here, caused some seas in its path some 40 feet high. In a lake that averages 15 feet deep, you can appreciate that it would have slammed this tugboat right through the bridge. It had no business being in that water under those conditions.

I fear that the continuing lack of regulated marine traffic may result in a far worse tragedy than has occurred thus far. In the last accident on August 1, 1974, the causeway police officer hurrying to the scene—and all he had received was a sketchy report that there had been an accident on the bridge, and further I would like to say this officer happens to be my brother—he was rushing out there to find it and the tow that struck the bridge struck and knocked out the downside of a high-level hump, which means as you approach the hump, it looks like a normal approach until you get on the top and then there is nothing there.

In other words, he skidded to a stop sideways less than 50 feet from the edge—two vehicles containing three people having gone in before he got there. He was able to stop and if he had gone in, not yet having verified the accident, it's possible that other vehicles could have followed him in.

I think if you will notice in that thing—book of clippings—one of the most serious occurrences was when a bus went in out there. Another major point that should be considered by you as U.S. Con-

gressman is that the causeway provides a vital link between two major east-west interstate highways, I-10 and I-12, and is the only such link for 40 miles in the Greater New Orleans area. When the bonds are paid off, the causeway will become part of the State and probably the Federal highway system.

Admiral Barrow pointed out in a letter dated March 4, 1975, to the Lake Ponchartrain Safety Committee that "The major threat to the causeway is from tugs and barges operating under State leases," and, therefore, he felt that the State bears a special responsibility for anticollision measures. What the admiral is referring to is the fact that the shells dredged from the western end of Lake Ponchartrain come from State-controlled leases, and it should be made clear that the tugs and barges themselves are licensed by the U.S. Coast Guard. The State is really not in the business of regulating marine traffic—nor should it be.

Furthermore, it seems totally irrelevant whether or not the shell leases are State or privately controlled. The important fact, however, is that the shell deposits in Lake Ponchartrain provide the only economical aggregate source in southeast Louisiana. These clamshells are used in place of gravel, which is scarce and expensive, primarily in highway construction, and primarily on Federal highways. The existence of this clamshell deposit is extremely important to the Louisiana Department of Highways and the Federal Highway Administration. Therefore, it seems quite apparent that the problem concerns both the U.S. Coast Guard and the Federal Highway Administration, which are both agencies of the Department of Transportation.

Last year the commission hired safety engineers to make an indepth detailed study of the causeway. One of the major recommendations was the installation of a VTS consisting of a manned radar tracking station, with provisions for radio operated alarm systems installed on each tug operating in the lake. If the radar operators were unable to cause the course of an errant barge tow to be altered after calling on the marine radio, the alarm system could be set off by radio. This would ring on every tug on the lake and would not only tend to wake up the sleeping crew of the tug in question, but also alert all other tugs on the lake so that they could assist in any way possible.

Gentlemen, the Congress has the authority to provide funding for the installation and operation of such a system for Lake Ponchartrain under the provisions of the Ports and Waterways Safety Act of 1972. It makes no difference to us whether this VTS is an integral part of the Port of New Orleans VTS or a separate one. You are here to consider the safety of operations involving commerce in the Port of New Orleans. We beg you to consider the lives of the passengers in the 2½ million vehicles which cross the causeway each year.

Thank you very much for allowing us to present this desperate problem.

Mr. BIAGGI. Thank you, Mr. Lambert. The presentation was revealing, so were the pictures and the statement in connection with the many accidents that have occurred. Obviously, the general subject of boat safety comes within the purview of this committee and the Coast Guard. I don't know that it comes within the precise thrust of what we are discussing today, but it certainly merits further consideration.

Mr. LAMBERT. I would not be dramatic, but I close with this thought: Suppose it was a bad-weather night and suppose, say, a cavalcade of students had gone to a game across the lake and they were returning late tonight and a tow went through that bridge, we would all feel a little funny tonight when we found out about it.

Mr. BIAGGI. Your position is sound.

Mr. LAMBERT. We are having trouble getting help on this; we really are. This has been going on for a long time and we really need help bad and we want to cooperate.

Mr. BIAGGI. All I can tell you is you have two very esteemed and vigorous Congressmen in the persons of Congressman Treen and the gentlelady from New Orleans, Congresswoman Lindy Boggs, who I am sure will do all they can.

Mr. LAMBERT. They have been trying to help us, but we need all the help we can get.

Mr. TREEN. We have got Mr. Biaggi now.

Mr. BIAGGI. The gentleman from Baton Rouge is the last witness. Would you please identify yourself.

**STATEMENT OF T. R. BETTS, CARGO CARRIERS, INC.,  
BATON ROUGE, LA.**

Mr. BETTS. Yes. I am T. R. Betts, Cargo Carriers, Inc., Baton Rouge, La.

I think one of the reasons that you have difficulty in finding whether or not the VTS is needed above New Orleans is that the committee and hearings have all been slanted to New Orleans. Certainly Baton Rouge is the seventh largest port in the United States and we think that if we are going to be regulated, that there should be more consideration given to the needs and the operations within the Port of Baton Rouge, and not be tied in with the operations of the second largest port, Port of New Orleans.

Mr. BIAGGI. Nobody quarrels with you, except we have a series of ports that we have to survey and we will try to make as many of them as possible.

Mr. BETTS. What I am saying is we are being tied in with New Orleans right now. All of the regulations being discussed will not only apply to New Orleans, but apply to Baton Rouge.

Mr. BIAGGI. That is true, and to New York as well. We try to get as much input as possible. Our only regret is that we don't have as much time as possible to travel to each of these places when we would like to. The hearings will continue for many months to come, I'm sure.

Mr. BETTS. We appreciate it.

Mr. BIAGGI. Hopefully, we will be able to hold hearings at Baton Rouge.

Mr. BETTS. Thank you very much. I appreciate you coming.

Mr. TREEN. I want to say that just because the VTS will encompass the Ports of New Orleans and Baton Rouge doesn't mean that the regulations applying to Baton Rouge won't be consistent with its needs.

Mr. BETTS. This may be true; however, the regulations that we have seen have been consistent for all four sectors, at least regulations

we have seen drawn have applied throughout the sector of the Mile Zero to 243, which we are talking about Baton Rouge.

Mr. TREEN. I'm sure your industry representatives will be sure to offer your comments on the proposed regulations.

Mr. BETTS. I don't understand.

Mr. BIAGGI. In that connection, this record is open; it will be open for a month. You can make any contributions from any source in Baton Rouge, from any sources in the area. We are extremely anxious to get as much input as possible.

Mr. BETTS. Thank you very much.

Mr. BIAGGI. The meeting will adjourn.

[The following was submitted for inclusion in the record:]

MID-AMERICA TRANSPORTATION COMPANY,  
St. Louis, Mo., October 16, 1975.

Hon. MARIO BIAGGI,  
Chairman, U.S. Coast Guard Subcommittee, House Merchant Marine and Fisheries Committee, Longworth House Office Building, Washington, D.C.

DEAR CONGRESSMAN: I would like to officially go on record on behalf of Mid-America Transportation Company as being opposed to the V.T.S. as presently proposed. We feel the vessel traffic control system from the sea buoy to mile 243 A.H.P. is not needed. Properly managed and manned the present traffic system (the stop and go lights at Algier's Point) coupled with the monitoring requirements of channels 13 and 16 currently in effect should and would provide a viable and safe system of vessel traffic management in the New Orleans area at a fraction of the cost of the proposed V.T.S.

The monies that have been earmarked for this system 4.4 million dollars for the initial investment could be spent in countless other areas to promote safe and economical transportation of goods by water.

The vessel traffic control system as presently proposed was developed without the proper input of industry in the form of a formal advisory committee.

We feel that had there been a proper advisory committee working in cooperation with the Coast Guard on this, the proposed regulations would have been contested at the onset.

Yours truly,

J. A. TINKEY,  
Vice President,  
Manager Traffic and Personnel.

[Enclosure 5]

DEPARTMENT OF TRANSPORTATION,  
U.S. COAST GUARD,  
New Orleans, La., November 12, 1975.

Hon. MARIO BIAGGI,  
Chairman, Subcommittee on Coast Guard and Navigation, House Subcommittee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. BIAGGI: During the field hearing on Vessel Traffic Safety on 3 October 1975, you asked me to provide, for the record, comments on two aspects of the proposed New Orleans project. The first aspect was the statement made by Mr. Robert L. Gardner of Alter Company, Davenport, Iowa, which contained charges concerning the Coast Guard's actions in attempting to implement the New Orleans Vessel Traffic System.

After reviewing Mr. Gardner's letter and the preliminary transcript of the hearing, I have come to the conclusion that his charges encompass a policy area which is in excess of my authority. I have therefore requested the cognizant staff within Coast Guard Headquarters to respond to these allegations. You will receive a response from the Commandant for inclusion in the record.

The second aspect of the hearings which you asked me to address is the question of whether the New Orleans Vessel Traffic System will expedite rather than delay traffic.

Delay of traffic in the Coast Guard's existing Vessel Traffic Systems has not been a factor which has been raised as an industry objection, nor can I statistically prove that these systems have expedited traffic. The major area of comment in both the presently operational Houston-Galveston and Berwick Bay Vessel Traffic Systems in my District has been the vessel operators' opinions that these systems provide a feeling of confidence enabling transit of these hazardous areas with a greater degree of safety. The New Orleans Vessel Traffic System's operational area is so geographically different from our existing systems that our experience may not be directly comparable; but I believe this same increased confidence on the mariner's part will occur in the New Orleans System.

As I stated in my testimony, one of the basic purposes of the Vessel Traffic Services is to facilitate vessel movement by acting as a central maritime information collection and dissemination agency. My requirements for the New Orleans system were also stated in the record; in essence, there will be times that vessels will be required to slow down, stop or not be able get underway within the system at the precise time that the operator desires. Obviously this could be termed as delaying or slowing traffic but such a procedure would only occur when a situation existed whereby a prudent operator would take the same action (delay departing, slow down, stop, etc.) if he were aware that an unsafe situation existed or was developing in his intended transit route. By making full use of the vessel movement reporting system, aided by a computerized real-time automated data system, the Vessel Traffic Center will be aware of a potential hazardous situation developing. Directed action by the VTC to an operator in the form of advice to stop, slow, remain moored, etc. to avoid an unsafe condition from occurring, would only be given when an operator is not aware of a potential unsafe condition or was aware of and ignored his responsibility to act in a prudent manner. To slow down traffic for any reason other than for safety would be in direct conflict with one of the basic purposes of a VTS previously mentioned (i.e. to facilitate traffic movement) and will not be practiced or tolerated.

If there are any aspects of this or any other subject on which I can be of assistance, my staff and I will be pleased to respond at your request.

Sincerely,

W. W. BARROW,  
*Rear Admiral, U.S. Coast Guard,  
Commander, Eighth Coast Guard District.*

[Whereupon, at 5:35 p.m., the subcommittee adjourned, sine die.]



## VESSEL TRAFFIC CONTROL

TUESDAY, SEPTEMBER 21, 1976

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

The subcommittee met at 10:30 a.m., in room 1334, Longworth House Office Building, Hon. Mario Biaggi, chairman of the subcommittee, presiding.

Mr. BIAGGI. The meeting is called to order.

This morning, the Subcommittee on Coast Guard and Navigation is continuing its hearings begun last year in connection with its oversight responsibilities for Coast Guard programs.

Early in the Congress, the subcommittee decided that it would be advantageous to take a detailed look at the Coast Guard program involving vessel traffic services, a program formally initiated subsequent to the passage of the Ports and Waterways Safety Act of 1972. Since that time, plans for the development of vessel traffic systems in various port areas have been undertaken.

The relative sophistication of the services contemplated varies significantly, depending upon the port area involved and its peculiar needs, but some kind of system has been initiated for the Ports of San Francisco, Houston, Sault Sainte Marie, Puget Sound, New York, New Orleans, and Valdez, Alaska. It is understood that consideration is now being given for such a system in the Chesapeake Bay and possibly in the Delaware River. Other port areas should receive attention as future needs direct.

As a part of its review of the program, the subcommittee held hearings on the subject in New York, Philadelphia, New Orleans, and Sault Sainte Marie. Unfortunately, it was unable to make scheduled visits to other port areas, but expects to do so when visits to those ports can be scheduled during the next Congress.

The hearings today and tomorrow are scheduled for the purpose of bringing the subcommittee up to date on the overall program and to permit testimony from several interested witnesses who have requested the opportunity to appear and express their views, particularly on the plans for the vessel traffic services in New Orleans and the lower Mississippi River.

I have requested the Coast Guard to review the current status of vessel traffic services in each port area where such services are either in place or being developed, to furnish the subcommittee with a summarized history of the appropriations and expenditures for each

port area, together with anticipated future needs, to inform the subcommittee of the exact status of the development of the program in each port area, and to advise us of any plans for areas where the program is not yet underway.

In conducting these oversight hearings, I wish to comment that the subcommittee is, in no way, desirous of substituting its judgment for that of the Coast Guard in the details of these various port programs. We do, however, wish to assure ourselves that the manner of satisfying the needs of each port area is rational and reflective of the overall needs, and we wish to be sure that funding which we authorize will be utilized effectively, consistent with those needs.

Our first witness today is Rear Adm. Anthony F. Fugaro, who has recently assumed duties as Chief of the Office of Marine Environment and Systems at Coast Guard Headquarters.

As the officer responsible for the overall vessel traffic service program, Admiral Fugaro will review for us the overall program and will discuss future plans for its expansion into new areas.

Admiral FUGARO.

**STATEMENT OF REAR ADM. ANTHONY F. FUGARO, CHIEF, OFFICE OF MARINE ENVIRONMENT AND SYSTEMS, U.S. COAST GUARD, ACCOMPANIED BY CAPT. RICHARD A. BAUMAN, CHIEF OF PORT SAFETY AND LAW ENFORCEMENT, AND COMDR. EUGENE J. HICKEY, JR., CHIEF OF VESSEL TRAFFIC SERVICES**

Admiral FUGARO. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, it is a pleasure to appear before you today to testify concerning the Coast Guard's vessel traffic services program.

I am Rear Adm. Anthony Fugaro, Chief of the Office of Marine Environment and Systems, Coast Guard Headquarters.

With me on my right is Capt. Richard Bauman, Chief of Port Safety and Law Enforcement, and on my left is Comdr. Eugene Hickey, Chief of Vessel Traffic Services.

My statement is lengthy, and if there are no objections, I will read it at this time.

This morning I would like to summarize the historical background—

Mr. BIAGGI. Admiral, excuse me.

I note the extent of your statement. I do not know if it is possible—if it would be possible for you to summarize your statement, or would it be necessary to go into complete detail?

Admiral FUGARO. Mr. Chairman, I am ready to—I would be more than willing to summarize it.

I assume, of course, that the entire statement will go in the record, and I recognize that we are a little late, sir.

I would be more than very happy to summarize.

Mr. BIAGGI. Thank you very much.

[The statement follows:]

STATEMENT BY REAR ADM. ANTHONY F. FUGARO, U.S. COAST GUARD,  
DEPARTMENT OF TRANSPORTATION

Mr. Chairman and members of the committee: It is a pleasure to appear before you today to testify concerning the Coast Guard's Vessel Traffic Service program. I am Rear Admiral Anthony Fugaro, Chief of the Office of Marine Environment and Systems, Coast Guard Headquarters. With me, on my right, is Captain Richard Bauman, Chief of Port Safety and Law Enforcement; and on my left is Commander Eugene Hickey, Chief of Vessel Traffic Services. My statement is lengthy, and if there are no objections, I will read it at this time.

This morning I would like to summarize the historical background of vessel traffic management in the United States; discuss the justification and rationale behind the Coast Guard's VTS program; and identify the essential considerations taken into account in arriving at the current stage of VTS development. The concluding part of this testimony will address the specifics of each VTS currently operational or under construction, and will touch on current planning for future systems.

While some foreign ports, namely, Liverpool, Hamburg and Rotterdam, have had some form of VTS since 1964, the United States, despite the large number of ports and high volume of waterborne commerce, has been slower in the establishment of systems intended to provide some form of marine traffic control.

Table 1 is a list of some rather basic traffic services that were being operated in United States ports and waterways prior to 1972. The only Coast Guard operation was in the St. Marys River. Legislation for this dates back to 1896.

TABLE 1

| Port or waterway                   | Type                                     | Operator                                     |
|------------------------------------|--|--|
| St. Marys River.....               | VMRS, <sup>1</sup> TV.....               | U.S. Coast Guard.                            |
| New Orleans.....                   | Traffic lights.....                      | Corps of Engineers.                          |
| Cape Cod Canal.....                | Traffic lights, VMRS, radar, and TV..... | Do.  |
| Chesapeake and Delaware Canal..... | Traffic lights, VMRS, and TV.....        | Do.  |
| St. Lawrence Seaway.....           | VMRS.....                                | St. Lawrence Seaway Development Corporation. |
| Honolulu.....                      | Signal tower.....                        | Harbor master.                               |
| Los Angeles/Long Beach.....        | Harbor radar, teletype net.....          | LA/LB pilots.                                |
| Baltimore.....                     | VHF-FM communications.....               | Private.                                     |
| Portland, Oreg.....                | do.....                                  | Do.  |
| Boston.....                        | VMRS.....                                | Do.  |

<sup>1</sup> Vessel movement reporting system.

It has taken the United States some twenty years to achieve general acceptance of systems intended to provide some form of marine traffic control. A shore based harbor radar service was established in 1949 by Jacobsen Pilot Service, Inc. in Long Beach, California, and has been operated continuously by them ever since. This was just one year after the first harbor radar installation in the port of Liverpool, England. The pilots employed by the city of Los Angeles followed with their own harbor radar in 1951. The radars in Long Beach and Los Angeles were installed in the pilot dispatch offices and used by the pilots for their own purposes. They have not been continuously manned and do not provide for overall traffic management in these ports.

In 1951 a harbor radar demonstration, patterned after the systems in Liverpool and Long Beach, was conducted in New York Harbor. This was initiated and funded by the New York Port Authority. The potential of harbor radar was demonstrated, but funding and management problems for a permanent system were not resolved. The demonstration was terminated in 1952.

From 1962 to 1965 a second demonstration project was conducted in New York, this time by the U.S. Coast Guard. This project was known as Ratan, Radio Television Aid to Navigation. Technical problems led to a termination of this demonstration, although the concept may possibly have future application.

In November 1968, the Coast Guard formulated plans for a Harbor Advisory Radar Project. This experimental project was developed in San Francisco Harbor in 1969. Later the same year, a Coast Guard position paper concluded that there was a definite need for harbor advisory systems in congested U.S. ports and that the Coast Guard, under the Department of Transportation, should provide national leadership in this field.

In January 1970, the Coast Guard began operating the San Francisco Harbor Advisory Radar Project on an experimental basis. On 5 February 1970, Congressman Downing of Virginia introduced the first bill which included specific provisions for vessel traffic control. In May 1970, the President, in his oil pollution message to Congress, urged enactment, among other things, of legislation directed at vessel traffic control. Shortly thereafter, the Department of Transportation submitted its own Ports and Waterways Safety proposal, which was introduced as H.R. 17830.

Testimony on H.R. 17830 favored the marine safety and environmental purposes of the Bill, but was almost unanimous in opposition to many provisions of the Bill. The general tenor was that it was too loosely drawn and too broad in scope. On 18 January 1971, while an improved version of the Bill was being drafted, the *Oregon Standard* collided with the *Arizona Standard* in San Francisco Bay, with the resultant discharge of 800,000 gallons of oil into the Bay. This casualty emphasized the possible need for vessel traffic control in our ports.

On 10 July 1972, a more compact version of the Ports and Waterways Safety legislation was signed into law by the President. This authorized the Secretary of the Department in which the Coast Guard operates to establish, operate and maintain vessel traffic services and systems for ports, harbors and other waters subject to congested vessel traffic.

The American public through congressional action had thus demanded that more action be taken to reduce the loss of lives, injuries to people and damage to property and the environment as a result of the steadily increasing number of vessel casualties occurring in U.S. waters.

Prior to the passage of the Ports and Waterways Safety Act of 1972, the Coast Guard Office of Marine Environment and Systems was established in July 1971. One function of this office was to prepare and implement a national plan for vessel traffic services. The numerous ports and waterways of the United States are visited by almost every size and type of vessel currently in use in the world. These vessels transport thousands of different types of cargo. Many of these cargoes when spilled are hazardous or polluting. The size of vessels and the volume of shipping continue to increase. The potential for major marine disasters exists.

According to U.S. Coast Guard marine casualty statistics, the number of collisions and groundings in U.S. waters rose from 1,185 cases in fiscal year 1965 to 1,918 in fiscal year 1975. The reported losses to vessels, cargo and property from these casualties was \$33 million in fiscal year 1965; in fiscal year 1975 these losses were \$103 million. A recent study of the Coast Guard marine casualty reports suggests that due to unreported casualties and underestimates of the dollar losses for those casualties that are reported, the actual annual dollar losses are probably several times that amount. The annual loss of lives and number of serious injuries during this same period was 50 and 39 respectively. These figures do not include the substantial damages to property ashore, such as the costs of spilled oil cleanup.

During calendar years 1971 through 1975, the years for which complete data on pollution are available, there was an annual average of 170 polluting incidents caused by collisions and groundings which spilled an annual average of 5.2 million gallons of pollutants into U.S. waters.

Statistics indicate that waterborne commerce in the U.S. will increase substantially and the carriage of hazardous and potentially polluting cargo will be a significant part of this growth. Thus, the forecast for the future shows increased waterway congestion and greater potential risk of traffic accidents. Historical casualty data and the future outlook for waterborne commerce indicate a need for improved marine traffic safety in U.S. ports and waterways. Vessel traffic services can make significant contributions to this effort.

This, then, is the situation that confronts the Coast Guard today. The Congressional mandate is clear. What follows is a description of the Coast Guard's activities to date in establishing vessel traffic services.

First, to establish the terms of reference, the concept of vessel traffic management should be examined, as it is vessel traffic management that is practiced by a vessel traffic service. Vessel traffic management seeks to establish two principles: good order and predictability; and can take many forms. Essentially, vessel traffic management encompasses every measure applied to affect (and improve) the relationship of vessels with respect to each other. The Rules of the Road are statutory and regulatory measures that must be practiced by vessels, in order to prevent collisions. Another form of traffic management is routing, one element of which may be a traffic separation scheme, which is a network of one-way traffic lanes, and separation lines or separation zones, designed to

physically separate vessel traffic proceeding in opposite or nearly opposite directions. Additionally, depending upon the individual configuration of a port or waterway and the complexity of its vessel traffic patterns, other regulations may be established to further affect vessel movements, such as speed limits, limitations on vessel size, and restricting vessel operation to vessels that have particular operating characteristics and capabilities. Each of these forms of traffic management can be very cost effective in reducing vessel casualties, in that government equipment and personnel are not required except in the administration and enforcement of the laws and regulations.

For the sake of convenience, all of the foregoing forms of vessel traffic management can be categorized as passive. It is when people external to a vessel become involved in its operation, either directly or indirectly, that vessel traffic management becomes active. Such is the case when a Vessel Traffic Service is established. It has been recognized throughout the world, through detailed vessel casualty analysis, that passive vessel traffic management is not sufficient to prevent some serious vessel casualties. At the most recent international symposium on marine traffic systems, conducted at The Hague, April 11-14 1976, representatives of 25 nations submitted some 40 technical papers on the subject, and I quote from one:

"Is a captain still capable to navigate his ship safely, taking into account the increased traffic flows and the greater risk level of cargoes? Is a captain still able to anticipate the oncoming dangers without proper knowledge of what happens beyond the limits of visibility? Is it necessary to provide a captain with traffic information to facilitate the process of taking decisions?"

"Evidently, a great public interest is at stake. The tragic marine accidents of the past decade demonstrate the fatal consequences of strandings and collisions in terms of loss of human lives, pollution of the environment and the loss of capital."

These observations, made by His Excellency, Dr. M. H. M. van Hulst, Secretary of State of the Netherlands Ministry for Transport and Public Works, reflect the general consensus of the international marine safety community. It is gratifying to note that the United States is now considered to be at the forefront in the development of vessel traffic services. The Coast Guard developed harbor surveillance radar, being installed in New York, Galveston and Valdez, Alaska, has established a new international standard in its accuracy, effectiveness and reliability; the extensive use of low light level television, as a primary method of surveillance, was pioneered in VTS Houston-Galveston; and, the Coast Guard's procurement of traffic analysis and display computers is being closely followed by authorities in several major foreign port areas.

An active role in vessel traffic management presupposes the operation of equipment and people that have sufficient capability to fulfill that role. In the United States, we view the situation from the perspective of providing user services; that is, providing services to the master of a vessel—generally, furnishing him with information, critical to the safe navigation of his vessel, that he would not normally be able to obtain readily on his own. It remains, as in the past, the ultimate responsibility of the master to control the movements of the vessel, after correlating all available information, to ensure its safe passage.

Each component of a vessel traffic service is designed to derive this information that is critical to safe navigation, and to enable its communication to a vessel master well in advance of its need. The management approach to designing a vessel traffic service is a logical progression: first, identify the needs, cost, benefits, and vessel traffic options of a port or waterway (in the form of user services); second, identify the capability necessary to meet these needs (in the form of system components); and third, identify the specific engineering requirements necessary to provide the capability desired (in the form of specific electronic equipments). Thus, system operations management precedes system engineering management.

In order to accomplish the first step in traffic management systems design—establishing need—the Coast Guard examines four broad areas: (1) historic casualty experience, (2) potential for future serious casualties, (3) port or waterway configuration and traffic patterns, (4) future port or waterway growth. This step must be conducted on a port-by-port basis. In 1973, the Coast Guard conducted an analysis of port needs for vessel traffic services. The output of this analysis was a listing of ports and waterways in the order in which their needs should be addressed, and initial recommendations concerning the system components necessary to meet these needs. This study (Vessel Traffic Systems, Analysis of Port Needs, August 1973) indicated that seven U.S. ports or waterways were experiencing the number and type of vessel casualties that would require a vessel

traffic service to prevent. These ports and waterways were identified as: New York, Houston-Galveston, the Mississippi River from the Gulf of Mexico to Baton Rouge, Chesapeake Bay, San Francisco, Puget Sound, and several sections of the Gulf Intracoastal Waterway (ICW). The study also found that in eleven other U.S. ports and waterways vessel casualty experience warranted a future detailed examination with respect to what passive vessel traffic management measures could be applied. In most cases, it was felt that compliance with the then recently promulgated Vessel Bridge-to-Bridge Radiotelephone Act and regulations would be sufficient to significantly reduce the incidence of vessel casualties in those waters.

With respect to the second step in system design—required capability (components)—a number of essential considerations are made. In order for any vessel traffic management system to be effective, the traffic manager must be provided with four basic components: (1) the ability to communicate, (2) the ability to analyze and display information, (3) surveillance, (4) qualified personnel.

*The ability to communicate with Participating Vessels.*—A Vessel Movement Reporting System (VMRS) is the keystone of any vessel traffic service. It consists of a VHF-FM communications network that permits direct radio contact with the master of every participating vessel in the VTS area. While participation by vessels is currently voluntary in all VTS areas other than Puget Sound and Berwick Bay, the Coast Guard is considering issuing Federal regulations to require participation by vessels in every VTS. In a VMRS vessels provide information to the Vessel Traffic Center (VTC) as to their location, intended movements, size, cargo, and conditions that may adversely affect their safe navigation or the safe navigation of other vessels, such as observed discrepancies in aids to navigation, concentrations of fishing or recreational vessels, and obstructions to navigation. Vessels must maintain a continuous listening watch on the VTS frequency designated for the geographic area within which the vessel is operating.

In those ports and waterways where the number of vessels participating at one time exceeds the number that can be accommodated on a single radio frequency, as in New York and the Mississippi River, the VTS area will be sectorized, and vessels will change frequencies when crossing sector boundaries. As each vessel is also required to maintain a continuous listening watch on VHF-FM Channel 13, the vessel bridge-to-bridge radio-telephone frequency, a common radio frequency is available to vessels in proximity of each other, but in different VTS sectors. Channel 13 is also listened to by each VTC sector operator; consequently, this frequency serves as a backup for immediate communication between the VTC and vessels, in the event of congestion on the sector frequency. Additionally, a continuous listening watch on the VTS sector frequency establishes a "party line" concept, wherein masters are able to discern substantial valuable information concerning the movements of other vessels in the vicinity by listening to communications with the VTC.

*The ability to analyze and display information.*—In order to provide the user services necessary to avoid the hazardous conditions that lead to vessel casualties, the traffic manager must be provided with the component that will analyze and display all relevant information obtained through the VMRS and other sources. Generally, this can be accomplished by automatic data processing and computer generated displays. The Coast Guard is looking at computers as an aid to the traffic manager in his decisionmaking process, by performing accurately and rapidly those time consuming functions otherwise required to be accomplished manually. Additionally, computers can perform complex tasks, such as automatically accepting and displaying vessel location and movement data from surveillance devices. And, most important, computers can forecast the development of vessel congestion—the primary cause of vessel collisions—so that the traffic manager can alert vessels in time to develop remedial courses of action. It should be emphasized that the Coast Guard does not put decision making in the hands of a computer—that is the role of qualified humans. We do, however, wish to take advantage of this superior resource for freeing the traffic manager of the manual functions that needlessly detract from his time available to communicate and to think.

*Surveillance.*—The need for a surveillance component in a vessel traffic service is directly proportional to the level of accuracy of information necessary to provide user services. In areas where vessel traffic density is high and traffic patterns complex, and in areas where the waterway configuration presents natural constrictions to traffic, it is generally advantageous to allow the traffic manager to "see" and exactly measure the situation on a real-time basis. The accuracy of vessel location

and movement reports is limited by numerous governing factors, including erroneous information input by participating vessels.

Currently, surveillance is provided by three means: visual observation; closed circuit, low light level television; and radar. Other surveillance devices, such as magnetic or acoustic detectors may have application in U.S. systems, and are now under study in the VTS Research and Development program.

In selecting the type of surveillance to cover any section of a VTS area, two primary criteria govern: 1) the geographical configuration of the waterway, 2) the purpose of the surveillance. Experience in the operation of Houston-Galveston VTS has shown that closed circuit, low light level television (CCTV), augmented with infrared illumination equipment, is one of the best means of electronic surveillance, in that it most closely duplicates the capability of the human eye—the ideal method of surveillance. CCTV's application is limited to the river environment, however, and is not as well suited to coverage of large harbors and bays as is radar. High resolution, harbor surveillance radar can detect and track vessels up to 24 miles from the antenna site. By using microwave links, any number of remote radars can bring surveillance coverage to the traffic manager. Radar, while lacking CCTV's ability to positively identify all vessels within range, has the advantage of being effective during periods of extremely limited visibility. Thus, it is possible to assist vessels in fixing their location during reduced visibility, when they may have lost the ability to do so independently. Additionally, radar video data can be digitized for automatic entry into computer processors. We are currently developing a capability for automatic radar tracking of vessels by computer, thus introducing further speed and accuracy into the system, and further freeing human operators of time consuming manual functions.

*Qualified Personnel.*—The most important component of any vessel traffic service is the complement of personnel tasked with operating it. In the initial planning stages of VTS development the Coast Guard has manned its vessel traffic centers with military personnel. The Coast Guard recognizes that, in general, its personnel do not possess the specialized qualifications of the pilots that navigate the vessels sailing the waters of the VTS area. Nevertheless, as a seagoing agency of long standing, the Coast Guard does possess highly competent mariners. The Coast Guard does intend to assign these men to its vessel traffic services, and feels that they will be both fully trained and fully qualified to perform the specific functions required. Keep in mind, we recognize the role of the master and pilot as the sole authority in the maneuvering of the vessel—the traffic manager ashore cannot supplant that role. The criteria that the Coast Guard has developed in manning vessel traffic centers are based on complex factors relating to the amount of necessary communications; vessel traffic density and complexity; and electronics equipment configuration. Each VTC is manned on a 24 hour day basis. A Coast Guard officer in the grade of lieutenant is continuously on duty in the capacity of watch supervisor. He is in direct supervision of several enlisted sector operators, who do the actual communications with vessels and perform the data management functions of the center. It is the watch supervisor who is solely responsible for decisionmaking and who exercises the authority of implementing Federal regulations. On a longer term basis, alternate manning arrangements, considering the use of local personnel, including pilots, are being studied.

The expressed intent of the Ports and Waterways Safety Act of 1972 is the prevention of damage, destruction or loss to vessels or bridges or structures and the protection of the navigable waters from resultant environmental harm. Therefore, a basic principle in the operation of any vessel traffic service established under this Act is that necessary action be taken to prevent collisions and groundings, within the capability of the system. Should a watch supervisor perceive a certain set of circumstances to constitute a situation that may result in a vessel casualty, he is authorized and required to take whatever action that he feels is necessary to prevent that casualty. Generally, his actions will involve a timely exchange of advice and information with the master, pilot or other person in charge of the navigation of the vessels. Nevertheless, if in his opinion it is necessary, the watch supervisor will issue orders directing the movement of the vessel or vessels involved. Even then, this does not lessen the responsibility of the master or pilot for safe navigation and prudent maneuvering of his vessel. The master or pilot may choose to disregard this order under the provisions of Section 161.111, 33 CFR, which reads:

"In an emergency, any person may deviate from any section in this subpart to the extent necessary to avoid endangering persons, property, or the environment."

He must then report his actions to the VTC, in accordance with Section 161.134, which reads:

"Whenever the master of a vessel deviates from any section in this subpart because of an emergency or radio failure, he shall report, or cause to be reported, the deviation to the VTC as soon as possible."

A recent marine casualty in the Houston Ship Channel involved the accidental grounding of an 893 foot lash ship (in the 400 foot-wide channel) after it collided with a tug pushing barges. The tug experienced a steering casualty while being overtaken by the larger vessel. During the period from the time the collision occurred, at 7:50 p.m., to the time that the ship was again under way, at 2:40 a.m. the next morning, the Coast Guard Vessel Traffic Center in Houston actively managed traffic to prevent further casualties as a result of the extreme congestion that resulted. The summary of events, which I would like to submit separately for the record, graphically illustrates the capability of a VTS, wherein the components of communications, surveillance, and competent people functioned ideally to avert potential disaster. No one can say what would have happened had the downbound, 585 foot liquified petroleum gas (LPG) ship not been advised of the several other deep draft vessels anchored in the narrow channel. The fact that the Houston Ship Channel is in the heart of a heavily populated area containing dense chemical and petroleum storage facilities greatly exacerbated the already hazardous situation. It is possible that most, if not all, of the costs of establishing VTS Houston-Galveston were recovered that night, in the form of loss of life and property that was prevented.

Having first identified the needs of a port or waterway, and then the system components necessary to provide the user services to meet those needs, the final step in the management approach is to identify the specific engineering requirements to provide the capability desired. An evolutionary process has taken place in this regard since initial vessel traffic services were procured in 1972 and 1973. Originally, specific electronics equipment and services were selected by the Coast Guard and procured through the applicable GSA Federal Supply Schedule Contract. A review of this procedure by the General Accounting Office resulted in the recommendation that the Coast Guard procure future systems using a detailed work statement and competitive procurement. In writing a detailed work statement, electronics equipment operating and design requirements are specified; but, the specific equipments are left to the prospective bidder. Thus, the Coast Guard seeks to define its electronics engineering needs in the form of specific operating requirements.

In all candor, it should be noted that the Coast Guard has not meet with general acceptance of its plans by the marine industry, which has been understandably skeptical to date. Such is not the case in those areas that have actually been provided the user services of a VTS. The Port of Houston, in particular, has significantly benefited from the Houston-Galveston Vessel Traffic Service, both in hazards reduced and facilitation of marine commerce. In my opinion, there would be substantial marine industry opposition to any proposal to withdraw those services. I am just as confident that general industry acceptance will be gained by each new VTS as each is given the opportunity to demonstrate its worth.

Thus far I have briefly described the history of VTS in the U.S. I have also described the methodology we have used in selecting and designing systems for specific ports. I have attached to my statement a brief chronological history and description of existing or planned VTS in the following areas: San Francisco, Puget Sound, Houston-Galveston, New York, New Orleans, and Prince William Sound.

In the seven areas identified in the 1973 "Analysis of Port Needs" Study Report as having a potential requirement for active vessel traffic management, five vessel traffic services are currently operational or under construction. The remaining two areas—Chesapeake Bay and the Gulf ICW—are still undergoing study by Coast Guard planners in the Fifth and Eighth Coast Guard Districts respectively. Our preliminary analysis of Chesapeake Bay indicates that a VTS for the entire bay area may not be cost beneficial. We are looking at sectors of the bay area to determine if VTS in these areas would be justified. In any event, we intend to hold public hearings in both Maryland and Virginia to ensure that all interested parties have an opportunity to comment on needs in the bay area. This will ensure that the broadest based information will be considered by the Coast Guard before any final decision on VTS in the Chesapeake Bay area is made. With respect to the Gulf ICW, we expect to complete our detailed studies of costs versus benefits during calendar year 1977.

At the present time, no other U.S. port or waterway is being actively considered for establishment of a manned vessel traffic service. Nevertheless, the Coast



Guard is pursuing a program of data collection and analysis for each area where marine commerce is significant, so that we will be prepared to identify any future needs as they develop. Further, we will be monitoring existing operations to assure that they are, in fact, cost effective and are producing desired objectives. We will also update these systems as necessary. Already we have developed a long-range R&D plan looking towards improvements in future systems.

Mr. Chairman, this concludes my prepared testimony. I or my staff will be happy to answer any questions that the Committee may have.

#### ATTACHMENT 1

##### SAN FRANCISCO VESSEL TRAFFIC SERVICE

The first formal involvement of the Coast Guard in vessel traffic management occurred in 1968, as planning began for an experimental harbor advisory radar system in San Francisco, CA. San Francisco was selected as the site for this initial research and development effort for several reasons:

(a) The bay had an established voluntary vessel movement reporting system (VMRS) and an existing, well developed, communications system.

(b) The relatively high occurrence of fog allowed a more complete evaluation of system benefits in facilitating vessel movement during low visibility.

(c) Traffic density was not high enough to require complex data collection and analysis methods during the experiment.

(d) The bay presented several complex traffic patterns; the experience gained could therefore be applied to similar areas in other ports. The Coast Guard began operating the San Francisco Harbor Advisory Radar (HAR) Project on an experimental basis in January 1970. Our original concept was to proceed rather deliberately with the HAR experiment before trying to develop any fully operational systems. The collision between two tankers beneath the Golden Gate Bridge on 18 January 1971, with the resultant discharge of 800,000 gallons of oil into San Francisco Bay, greatly accelerated our plans. On 22 August 1972 the San Francisco Vessel Traffic Service assumed operational status. During 1973 a traffic separation scheme was instituted, the traffic center was expanded and moved to Yerba Buena Island, and improved communications equipment was placed in operation. Also, communications coverage was extended to the delta region, and a vessel movement reporting system was instituted between Point San Pablo and the Sacramento and San Joaquin Rivers. One radio frequency has proven sufficient in San Francisco to handle all VTS communications. VHF-FM channel 13 is now being used, but plans call for a shift to channel 12 as the primary VTS frequency in the near future. At present San Francisco VTS is voluntary, but user participation and acceptance are excellent. Regulations to require participation of certain classes of vessels are presently under review within Coast Guard Headquarters, and will be the subject of public hearings prior to implementation.

San Francisco VTS is manned by seven officers and 21 enlisted personnel. Including all research and development work, the system cost \$5.8 million to establish; annual operating expenses are \$780 thousand.

White statistically valid conclusions on the operational effectiveness of the system cannot be drawn due to limited data, merchant vessel casualty statistics for the first three years of operation are most encouraging. Although vessel transits have been steadily increasing, the annual number of collisions has fallen from 12.4 in the pre VTS period to 2.3 since San Francisco VTS was commissioned. During the three year period of VTS operations there have been no deaths/injuries or pollution incidents caused by vessel casualties, and the annual damages caused by vessel casualties have dropped from \$2.3 to \$1.7 million.

No system changes or improvements are planned.

#### ATTACHMENT 2

##### PUGET SOUND VESSEL TRAFFIC SERVICE

In September 1972 the second U.S. vessel traffic service was established in Puget Sound, WA. This area is made up of long, narrow, deep waterways, and is subject to visibility of less than two miles more than 12% of the time. Large numbers of commercial fishermen and recreational boating enthusiasts take maximum advantage of the area's pristine environment.

A fiscal year 72 appropriation of \$1.0 million provided funds for the initial system establishment. The vessel traffic center was constructed in Seattle and a buoyed traffic separation scheme implemented in Puget Sound and adjacent waters. Regulations requiring vessel participation went into effect in September 1974. Puget Sound VTS operated solely as a communications based vessel movement reporting system until October 1975, when limited radar surveillance of congested areas was added. This system augmentation was funded by a fiscal year 74 appropriation of \$1.0 million. Puget Sound VTS operates on a single VHF-FM communications channel. VHF-FM Channel 13 is presently being used, but a shift to Channel 14 is planned within a year.

As the United States and Canada share common traffic management problems in the boundary areas, close coordination has been maintained. In March 1975 a voluntary traffic separation scheme in the Strait of Juan de Fuca was jointly implemented. In February 1976 technical agreement was reached on provisions of a United States/Canada joint vessel traffic management agreement for boundary waters.

The personnel complement for Puget Sound VTS is seven officers and 23 enlisted men. The total establishment cost is \$2.0 million, with annual operating expenses of \$830 thousand.

As with San Francisco, the casualty statistics have been favorable, if not conclusive, since the system assumed operations. The annual number of collisions dropped from 3.5 to 1.0, and annual monetary damages from vessel casualties have decreased from \$800 thousand to \$400 thousand. In the three years of operations there have been no pollution incidents or deaths/injuries caused by vessel casualties.

Two system modifications are under consideration for Puget Sound VTS. First, the addition of radar coverage of the Strait of Juan de Fuca and Rosario Strait is needed to provide positive surveillance capabilities for effective implementation of joint U.S./Canadian vessel traffic management in those waters. Secondly, the present manual means of maintaining vessel position and status is proving inadequate in handling the more than 240 daily vessel transits which are actively being managed by Puget Sound VTS. The addition of a computer based information and display system is being studied.

### ATTACHMENT 3

#### HOUSTON-GALVESTON VESSEL TRAFFIC SERVICE

The Coast Guard's third VTS was established in the Houston-Galveston, Texas, area in February 1975. The area includes Galveston Bay and entrance, a section of the Gulf Intracoastal Waterway, Bolivar Roads, and the entire Houston Ship Channel. The Houston Ship Channel is a narrow man-made channel with many sharp bends and extends about 40 miles from Galveston Bay to the turning basin in Houston. Annually, there are over 80,000 vessel transits carrying 82 million tons of cargo, over 60 percent of which is petroleum and chemical products.

The 1973 Coast Guard "VTS: Analysis of Port Needs" Study Report ranked Houston-Galveston third, behind only New York and New Orleans. An average of 36 collisions, rammings, and groundings occur annually, causing an average of three pollution incidents and \$4.3 million in direct damage to vessels, cargo, and property. It is estimated that the operation of the VTS will prevent 38 percent of the collisions and 25 percent of all casualties and will produce direct monetary benefits of over \$1.0 million. Presently, this system incorporates a communications based vessel movement reporting system, with surveillance of the four most critical sections of the Houston Ship Channel provided by low light level, closed circuit television. VHF-FM channel 12 is the single VTS operating frequency. Regulations are now being drafted to make participation of certain categories of vessels mandatory.

The manning complement of Houston-Galveston VTS is seven officers and 24 enlisted personnel. System additions for which contracts have been awarded include radar surveillance of Galveston Bay and computer based information and display system. The total system establishment cost of \$2.8 million has been funded by appropriations of \$2.0 million in FY 73 and \$800 thousand in FY 76. Annual operating expenses are \$890 thousand.

No further modifications or major system changes are planned.

## ATTACHMENT 4

## NEW YORK VESSEL TRAFFIC SERVICE

New York Harbor represents the greatest vessel traffic management challenge in the United States. It is the country's largest port, handling the largest amount of commerce, and has very high vessel density and complex traffic patterns. About one half million vessel transits take place annually in greater New York Harbor.

In the 1973 Coast Guard "VTS: Analysis of Port Needs" Study Report, New York ranked No. 1 in priority for improved vessel traffic management services. About 80 collisions, rammings, and groundings occur annually, causing an average of six pollution incidents and \$9.0 million in direct damages to vessels, cargo and property. It is estimated that the operation of New York VTS will prevent one half the collisions, about one third of all casualties and produce direct monetary benefits of \$2.4 million annually.

New York VTS is scheduled to start operations in July 1978. It will maintain radar surveillance of the Upper and Lower Bays and television surveillance of six critical areas in Arthur Kill, Kill van Kull and the East River. Computer based automated techniques will be used to store, process and display vessel information for traffic management functions. Due to the geographical size of the area and the large number of vessels, New York VTS will be divided into five sectors, using VHF-FM channels 11, 12 and 14 as operating frequencies.

The \$7.3 million cost of system establishment has been funded by appropriations of \$4.2 million in FY 74 and \$3.1 million in FY 77. Annual operating expenses are estimated to be \$1.21 million. The manning complement will be seven officers and 45 enlisted personnel.

## ATTACHMENT 5

## NEW ORLEANS VESSEL TRAFFIC SERVICE

New Orleans VTS will cover the Mississippi River from Baton Rouge to 15 miles seaward of the entrance, the Mississippi River Gulf Outlet, and portions of the Gulf Intracoastal Waterway, Harvey Canal, Algiers Canal, and the Inner Harbor Navigation Canal. Annually the Mississippi River in the vicinity of New Orleans carries over 1.5 million tons of cargo, half of which is petroleum and chemical products. Annual vessel transits exceed 150,000.

The 1973 Coast Guard "VTS: Analysis of Port Needs" Study Report ranked New Orleans second nationally in its need for improved vessel traffic management services. In the last three years an annual average of 165 collisions, rammings, and groundings has occurred, causing an average of \$7.8 million in direct damage to vessels, cargo and property. It is estimated that the operation of New Orleans VTS will prevent over half of these casualties and produce \$2.6M in direct monetary benefits annually.

New Orleans VTS is being developed in phases, with initial operations scheduled to commence in July 1977. A vessel movement reporting system will utilize three VHF-FM communications frequencies: Channels 11, 12, and 14. The operation of existing Corps of Engineers traffic lights at Governor Nicholls Wharf, Gretna, and Westwego will also be incorporated in the VTS. We intend to operate the system initially with voluntary participation. When we may issue regulations requiring mandatory participation will depend upon our experience under voluntary operation.

In the second phase, tentatively scheduled for completion in mid 1979, low light level, closed circuit television surveillance coverage of the Mississippi River from mile 89 AHP to mile 112 AHP will be added. In a subsequent phase, radar surveillance of the Mississippi River in the vicinity of the Head of Passes could be added.

The total initial system cost of \$3.9 million has been funded by appropriations of \$1.7 million in fiscal year 74 and \$2.2 million in fiscal year 76. Annual operating expenses are estimated to be \$1.04 million. New Orleans VTS will be manned by seven officers and 40 enlisted personnel.

## ATTACHMENT 6

## PRINCE WILLIAM SOUND VESSEL TRAFFIC SERVICE

The Trans-Alaska Pipeline Authorization Act (P.L. 93-153) requires the Coast Guard to establish a VTS for Prince William Sound and Valdez, AK. It is expected that of the 17 daily transits of vessels subject to VTS, four will be tankers in the

80,000 to 125,000 DWT range. Geographically, the area is comprised of deep, open waterways surrounded by mountainous terrain. The only constrictions to navigation are at Cape Hinchinbrook, the primary entrance to Prince William Sound and at Valdez Narrows, the entrance to Port Valdez.

Annually, the area is subject to restricted visibility of less than two miles about half the time, due to rain, fog, and snow.

Prince William Sound VTS, which is scheduled to assume operations in October 1977, will provide reliable communications coverage of Port Valdez, Prince William Sound and 90 miles seaward of Cape Hinchinbrook, as well as high resolution radar surveillance of Valdez Arm, Narrows, and Port Valdez. In addition, traffic separation schemes are being established in Prince William Sound and its approaches.

Offshore tanker routing between Prince William Sound and West Coast ports is under development. Long Range Aid to Navigation (LORAN-C) coverage of such routes will provide accurate means for position determination for vessels to maintain the charted tracks.

The \$7.1 million cost of establishing the system has been funded by appropriations of \$2.36 million in fiscal year 1975 and \$4.74 million in fiscal year 1976. Annual operating expenses are estimated to be \$1.24 million.

The vessel traffic center will be located in Valdez, AK, as part of a Marine Safety Office. Facilities will include a 65' tug, family quarters, and barracks space. The total complement is 6 commissioned officers, 3 warrant officers, and 40 enlisted personnel.

No additional changes or modifications are anticipated.

#### ATTACHMENT 7

##### OTHER VESSEL TRAFFIC SERVICES

In addition to the six major vessel traffic services, the Coast Guard has established two less extensive systems since passage of the Ports and Waterways Safety Act. Each of these systems was undertaken to remedy a particular hazardous situation.

In 1973 a communications system was instituted in the vicinity of McAlpine Dam on the Ohio River near Louisville, Ky. Louisville VTS is placed in operation at those times when the flood stage at McAlpine Dam exceeds 13 feet, a condition which causes strong outfall currents at the upstream approach to the canal entrance to the locks. During such times, it is hazardous for more than one tow to be in the vicinity of the lock at the same time. The VTS coordinates the arrival of tows at this approach, and maintains communications with the nearby railroad drawbridge. Personnel who man the system intermittently are made available from their regular tasks by the call up of reservists. Louisville VTS cost approximately \$12,000 to establish and \$20,000 per year to operate.

Berwick Bay VTS was established in 1974 on the Atchafalaya River and Gulf Intracoastal Waterway, in the vicinity of Morgan City, LA. Two bridges over the Atchafalaya River at Berwick Bay make vessel navigation difficult, especially during periods of high water and fast currents. Berwick Bay VTS is a communications based system. It operates full time to coordinate traffic flow to ensure that vessels do not meet in proximity to the bridges. During periods of high water additional limitations apply to vessel operation restricting the size and makeup of tows. Berwick Bay VTS is manned by one officer and nine enlisted personnel. System establishment cost was \$24,000, and annual operating costs are \$152,000.

#### ATTACHMENT 8

##### SUMMARY OF EVENTS

Collision of M/V *Delta Norte* and Tug *Mississippian* and subsequent grounding of M/V *Delta Norte* on 10 July 1976, in the Houston Ship Channel, vicinity of LT-51A

All vessels and tows underway during this incident were VTS participants. All communications with the two vessels (*Delta Norte* and *Mississippian*) other than initial call were on Channel 12 and Channel 6.

Traffic summary at time of collision: Three inbound tows between HSC 25 and 26 and Redfish Bar and no inbound ships. Next expected arrival was M/V *Hellenic Sun* (522' x 76' x 23') at 2300. There were six outbound ships at time of collision, five more eventually came off dock. Four outbound tows below Morgan's Point. All ships anchored between HSC LT-84 and Redfish, all tows pushed into the bank on Redfish Bar.

## ALL TIMES CDST

1950

VTC overheard that a collision occurred between the Lash Ship *Delta Norte* (outbound from Barbour's Cut to Sea) and the Tug *Mississippian* (outbound from Ideal Cement to Bolivar, pushing 2 loaded, sand barges). The display showed the *Delta Norte* in an overtaking situation with the *Mississippian* in the vicinity of HSC LT-51A.

Informed COTP Galveston that a collision had occurred.

1952

The pilot aboard the *Delta Norte* informed VTC that he had collided and subsequently grounded the vessel. The channel was blocked by the ship and the pilot indicated he was unable to maneuver. VTC inquired about casualties, and damage to the vessel. The pilot indicated that there were no casualties, the *Delta Norte* had suffered little damage during the collision but that the Tug *Mississippian* had been holed. The watch inquired if tug assistance was requested. The pilot indicated that no tug assistance was requested and that as soon as the tanks had been sounded aboard the vessel that he would attempt to back off. This information was passed to COTP Galveston. The watch was directed to inform all outbound traffic below Morgan's Point and all inbound traffic above HSC LB's 25 and 26.

1954

VTC alerted the Harbor Tug dispatcher in Galveston and Houston and told them Harbor Tugs might be needed because of the size of the *Delta Norte* (893' long, 101' wide and 32'8" draft).

1955

VTC finally succeeded in contacting the Tug *Mississippian*. The skipper said he had been holed aft (barges were intact) and that none of his crew was hurt. He had power and was proceeding to Bolivar. The watch asked if he needed pumps or other assistance. The *Mississippian* said that he had pumps aboard and did not require assistance.

1959

*Delta Norte* pilot advised VTC that the ship could not back off and that two tugs had been ordered. COTP Galveston was notified. The pilot office and pilot boat were notified.

2000

The outbound crude carrier *Essi Flora* (516' x 66' x 30') anchored two miles above the *Delta Norte*.

2005

VTC notified COTP Galveston that VTC had closed the channel between Redfish Bar and LB's 25 and 26. The watch commenced notifying traffic.

2009

The channel was closed. COTP Houston was notified and informed of traffic.

2031

Pilot of the *Delta Norte* and tows in area recommend one-way traffic. COTP Galveston was notified and the channel was opened to one-way traffic. The *Delta Norte* was informed by the watch that two harbor tugs had just left Baytown (approximately 15 miles upchannel to assist the *Delta Norte*). COTP Galveston directed (through the Center) that the *Mississippian* wait at Government Moorings in Bolivar to be boarded by MIO personnel and that the *Delta Norte* wait in Bolivar anchorage for boarding by MIO personnel.

2036

Commanding Officer VTS briefed on the incident, the action taken, and the proposed course of action. He was subsequently informed of all major changes in status.

2045

Pilot of the *Delta Norte* indicates that vessel is grounded in pipeline area. VTC slide of area shows pipeline crossing above the position of the *Delta Norte*. The watch requested to know if there were any visible signs of discharge from a pipeline. The *Delta Norte* replied that there were no apparent leaks. COTP Galveston

was notified and the vessel was requested to cease attempting to back off until the contents of the pipeline could be ascertained.

2048

Closed channel due to the jostling effect of passing vessels.

2104

COTP Galveston indicated that the *Delta Norte* could continue to back off, if, in VTC opinion, the traffic situation required it.

Note.—Among the outbound traffic was the *Trina Multina* (LPG) (585' x 71' x 23'), the *Essi Flora* (516' x 6' x 30') (crude), the *Multitank Westfalia* (298' x 45' x 21') (crude) and the *Tuliahoma* (585' x 80' x 34') (crude). The *Esso Bahamas* (569' x 85' x 25') had just come off dock in Baytown loaded and two other Exxon ships were scheduled to sail prior to midnight.

The Master of the *Delta Norte* had shifted cargo aft and pumped his forward (water) peak tank raising the bow three feet. VTC advised the pilot he could continue his attempts to back off and notified COTP Galveston of the action taken.

Note.—A total of eleven outbound ships from Houston had been advised of the traffic situation and requested to slow until the *Delta Norte* cleared. All eventually anchored in the channel between LT-84 and Redfish Bar.

2139

*Delta Norte* position and draft were finally obtained (bearings and ranges) and passed to MIO Galveston.

2225

Pilots on-scene recommended one-way ship traffic in area due to lack of movement on *Delta Norte*. COTP Galveston notified and one-way traffic outbound for ships approved.

2234

*Delta Norte* backs off. Pilot indicates it will take him ten minutes or so to get straightened out in channel. Channel re-opened by COTP Galveston.

All ships notified of situation.

2247

*Delta Norte* is in irons and is unable to get straightened out. More tugs are ordered. COTP Galveston notified and the channel is re-closed.

2305

Notified Exxon Baytown and recommended that their two large crude carriers remain at berth until the *Delta Norte* clears. Exxon concurs.

VTC watch relieved.

2325

Relieved the watch with 13 ships anchored above M/V *Delta Norte*. Five tows pushed in at Redfish Reef and 14 tows in the vicinity of Galveston Freeport cutoff Buoy #2 and HSC 25 and 26. *Delta Norte* hard aground with two tugs made up alongside one tug enroute. *Delta Norte* reports no success with two tugs and is waiting for the third and asked if we can round up more. Called G&H Towing and put two tugs at Exxon Baytown on standby.

0226

M/V *Delta Norte* underway with tugs assisting.

0240

*Delta Norte* reports all systems functioning properly, opened channel to all traffic. VTC coordinating participants, user cooperation excellent all passed without further incident.

Admiral FUGARO. Mr. Chairman, in here it has been, as I have indicated in my statement in the historical background, we have been about 20 years since we first initiated some form of vessel traffic services. At least it has taken that length of time to gain acceptance within the United States.

Other nations have had systems such as Liverpool and Rotterdam, but we have come a long way, I feel, within the vessel traffic services

in development, and we have come to the point now where I think we are one of the leaders in the world in the development of hardware and in the development of systems and management in vessel traffic services.

Part of my statement I listed the existing systems in the world, including the one existing mandatory service in St. Mary's River near Sault Sainte Marie. And in my statement I also indicated the Coast Guard's history with the development of vessel traffic service and, in particular, the analysis and methodology that we used in developing the systems that we have today.

I have indicated the primary steps, Mr. Chairman, that were taken to insure that we get an adequate system, and on what we base our system.

First, for example, in determining whether or not there should be a system, we try to identify the needs, the cost, the benefits and the vessel traffic options of a port or waterway in the form of user services.

Second, we have identified the capability necessary to meet these needs in the form of system components.

And, third, identify the specific engineering requirement necessary to provide the capabilities required in the form of specific electronic equipment.

I also indicated what points we considered in establishing criteria and I also indicated what the steps we followed in insuring that we meet these needs. And, finally, Mr. Chairman, at the summary of my statement, I have included a fact sheet on each of the currently operating and planned VTS, vessel traffic services, within the United States along with some budgetary data on each one.

Mr. Chairman, I would like to make one brief summary statement.

In all candor, it should be noted that the Coast Guard has not met with general acceptance of its plans by the marine industry, which has been understandably skeptical to date. Such is not the case in those areas that have actually been provided the user services of a VTS. The Port of Houston, in particular, has significantly benefitted from the Houston-Galveston vessel traffic service, both in hazards reduced and facilitation of marine commerce.

In my opinion, there would be substantial marine industry opposition to any proposal to withdraw those services. I am just as confident that general industry acceptance will be gained by each new VTS as each is given the opportunity to demonstrate its worth.

Mr. Chairman, that, in a sense, is a brief summary of the statement, and I and members of my staff will be pleased to answer any questions at this time.

Mr. BIAGGI. I asked you to summarize briefly. I did not expect you to do such an excellent job of such extensive material. We appreciate that, but it leaves us up in the air to an extent.

My experience with vessel traffic service in the short time that I have been involved with it is that in certain areas some people—in the New York area specifically—are not so sure that the traffic up there warrants such an extensive system.

Then we go to New Orleans where I have spoken to many operators who indicate—and I am sure the gentleman from New Orleans, Mr. Treen, will make more specific observation in reference to it—that there is some conflict and an absence of cooperation, a lack of input from the operators, insofar as vessel traffic service is concerned.

As a matter of fact, to be very specific, they came there "raising hell." We had hearings, and we were left with the impression that there was a lack of cooperation. Apparently that is not exactly the fact.

I have been all over New York Harbor. That is where I come from. And I did not see any extreme traffic problems in those areas.

I know that the industry gets along quite well with the Coast Guard, and with Admiral Rea, but some of them were quite candid with me, and I get the notion that vessel traffic service should be reserved for traffic conditions in congested areas. In Philadelphia we had an oversight flight there, and we must have hit the quietest time of the day, because there was literally no traffic at that point.

What occurs to me is that this is a system that was conjured up as an ideal objective just for the sake of having a perfect situation, whether it is justified or not.

Are we getting a dollar returned for a dollar spent?

You put a traffic cop where there is traffic, not in an intersection where there is none. That, I think, is the crux of it.

Admiral FUGARO. Mr. Chairman, I think what we have based all of our vessel traffic systems upon, is an analysis of each of the ports wherein we have put a system.

First, we did do a rather extensive analysis, and the study which we call the Vessel Traffic Services and Analysis of Port Needs, which I believe the committee has already seen.

In this we have studied the needs of each port, we have studied the casualty data of each port, and it was based upon these factors, among others, in which we determine whether or not there was a need for a system in each of these ports.

In the process of doing this analysis, one of the factors is to insure that we are getting a favorable cost benefit for any moneys which we expend in these systems, and I believe in each instance wherein we have put a system that we have established that there is a clear cost benefit for these systems.

With respect to the point you make, Mr. Chairman, concerning an ideal system, or a need for a system with respect to traffic control, the type of systems which we envision are not positive, all encompassing systems, similar to, say what the FAA has within their air traffic control systems, where they are positively controlling the actual course, speed, height of a plane.

We have no such similar thoughts that these will be applicable to the marine mode.

Essentially what our system will be, and essentially what our systems are really, is where we are providing advice to mariners in these areas, so that the mariner is aware of the possible and potential hazards which he faces as he navigates along the waterway.

We will not be a positive control system. We will essentially be an advisory system, telling the mariner what is ahead of him.

Mr. BIAGGI. I got the notion that you do advise him, but he is also required to react to the advice in a manner conforming with your concept of proper response.

Admiral FUGARO. If the particular watch supervisor at a vessel traffic service determines that a specific action is necessary, for example, that a vessel should not proceed beyond a certain point, that a vessel should slow down before reaching a certain bend, in order to