BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

10,275

How Effective Is The Coast Guard In Carrying Out Its Commercial Vessel Safety Responsibilities?

The Coast Guard could more effectively carry out the goal of its Commercial Vessel Safety Program--insuring safety of life, property, and the environment in waters subject to U.S. jurisdiction.

Commercial vessel accidents have increased from about 2,400 in 1972 to over 4,000 in 1976, resulting not only in loss of vessels but also in death or injury to personnel and damage to shoreside facilities in the surrounding area.

Such disasters can be alleviated if the Coast Guard improves its

--inspection of U.S. vessels,

--boarding and examination of foreign and U.S. vessels,

--licensing of merchant vessel personnel, and

--promotion of international maritime safety.

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COMPTROLLER GENERAL OF THE UNITED STATES
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To the President of the Senate and
the Speaker of the House of Representatives

Marine casualties and their effects, including loss of life and ecological and cost considerations are of great concern to the Congress and the public. This report describes how the Department of Transportation can improve its Commercial Vessel Safety Program.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Transportation; the Secretary of State; and the Secretary of Health, Education, and Welfare.

Comptroller General
of the United States

COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

HOW EFFECTIVE IS THE COAST GUARD IN CARRYING OUT ITS COMMERCIAL VESSEL SAFETY RESPONSIBILITIES?

D I G E S T

The Coast Guard is responsible for insuring the safety of life, property, and the environment in waters subject to U.S. jurisdiction. However, the following improvements are needed to more effectively carry out this program.

--Expand in-house training, establish standards for qualifying inspectors, establish an inspection job classification, and extend the inspectors' tour of duty. (See p. 29.)

--Reexamine the possibility of transferring some aspects of the U.S. vessel inspection program to the American Bureau of Shipping. (See p. 29.)

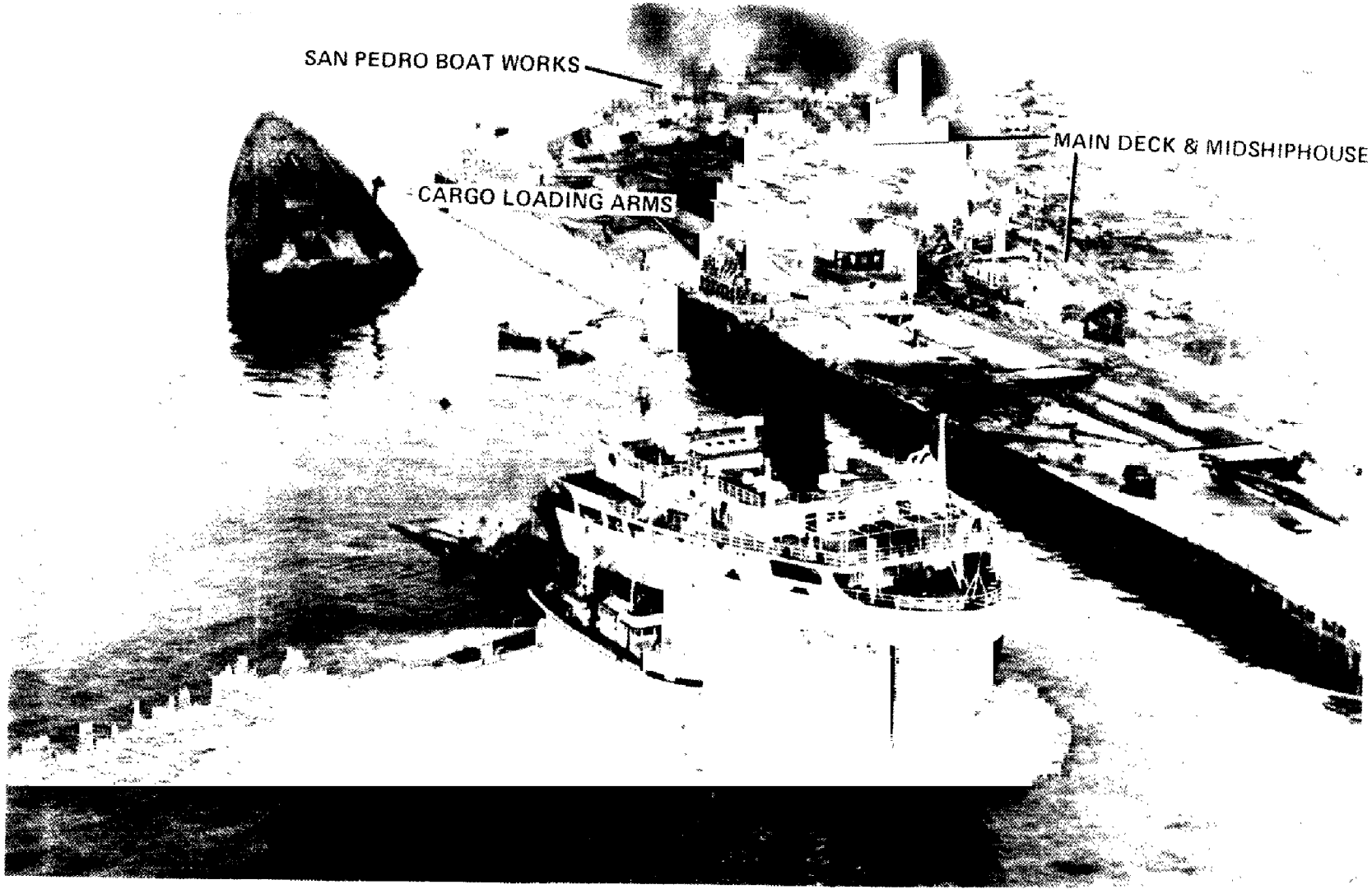
--Provide comprehensive direction for boardings and examinations, improve followup on tankship safety deficiencies, expedite the development of the Marine Safety Information System, adopt an aggressive penalty assessment policy, and emphasize the boarding and examination of uninspected U.S. commercial vessels. (See p. 46.)

--Require a demonstration of competency for issuance or renewal of marine industry personnel licenses, establish medical standards for determining the physical fitness of maritime personnel, seek jurisdiction over State pilots, and abolish the shipping commissioners' functions. (See p. 63.)

--Study the staffing needed to carry out activities in the Coast Guard's commercial and international safety programs. (See pp. 29 and 71.)

The picture on the following page shows the consequences of a marine disaster.

TOTAL LOSS INCLUDED 8 DEATHS AND DAMAGE TO 260 OTHER VESSELS.



SOURCE: NATIONAL TRANSPORTATION SAFETY BOARD

INSPECTIONS

At every location GAO visited, a staffing shortage existed. The Coast Guard was able to keep pace only by working inspectors overtime and by using trainees and reservists who were not always qualified as inspectors. (See p. 5.)

In addition, many inspectors are not trained or qualified. This is due to a lack of qualification standards or criteria, an inability to provide necessary training in a timely manner, and a rotation policy which works against developing and retaining expertise. (See p. 10.)

Various staffing problems could be alleviated if some inspection functions were transferred to the American Bureau of Shipping, which is already duplicating much of the Coast Guard effort. (See p. 19.) DLG 01642

VESSEL BOARDING AND EXAMINATION

The vessel boarding program was expanded in recent years to include examination of both U.S. and foreign vessels for compliance with regulations for pollution prevention, tankship safety, cargo transfer, and navigation safety. Because the Coast Guard has not provided adequate direction and guidance for implementing these examinations, the quality of the inspections has been inconsistent. For example, some inspectors marked the checklists indicating that the vessels were in compliance when all items had not actually been checked. (See p. 32.)

In the three districts GAO visited, tankship safety examinations have been reduced from every 90 days to once a year and U.S. tankers generally have been excluded. In addition, identified deficiencies are not being followed up to insure that corrective action has been taken. (See pp. 34 and 39.)

Other problems noted were lack of monetary penalties to deter violations (see p. 43),

Tear Sheet

an inadequate Marine Safety Information System (see p. 41), and low priority being given to boarding uninspected U.S. commercial vessels (see p. 44).

MERCHANT VESSEL PERSONNEL PROGRAM

The Coast Guard's program for licensing and certifying merchant vessel personnel should include assuring that mariners are physically fit and adequately qualified.

An applicant for a license or a renewal should be required to demonstrate professional competence by furnishing evidence of recent experience or training. (See p. 49.)

Neither the Coast Guard nor the Public Health Service has established medical standards or criteria for certifying that maritime personnel are physically fit for duty. As a result, the Public Health Service is declaring mariners with serious physical and mental problems fit for duty--after a union or company doctor has already declared them unfit for duty. (See p. 54.)

Harbor pilots operating under local, State, or a pilot association's jurisdiction are excluded from Coast Guard disciplinary action. Because of the important role played by pilots in navigable waters, the Coast Guard's lack of authority to deal with incompetence and misconduct seriously affects its ability to assure commercial vessel safety. (See p. 58.)

GAO concluded that the function of the shipping commissioner, which was established by law in 1872, has outlived its usefulness and should be abolished, which could result in cost savings of about $800,000 annually. (See p. 61.)

INTERNATIONAL MARITIME SAFETY

Since over 95 percent of oceangoing foreign cargo entering U.S. ports is carried by vessels flying foreign flags, improvements

in international maritime safety standards is of concern to the United States.

The Coast Guard has participated, with the Department of State, in international efforts to improve maritime safety and reduce pollution. (See p. 66.)

While the Coast Guard has responded to foreign government requests for technical and training assistance, such assistance has been minimal due to limited staff and the absence of direct funding. The Coast Guard has not determined its ability to provide assistance or to what extent planned assistance should be provided. (See p. 68.)

AGENCY COMMENTS

The Department of Transportation, in commenting on the report (see app. IV), agreed with most of GAO's recommendations. It had already begun, and in two instances almost completed, (see pp. 17 and 34), implementing the recommendations. The Department disagreed with the need for increased tankship boardings (see p. 39) and planning international assistance (see p. 71). However, the Department said that its disagreements were because of philosophical differences or the lack of immediately available qualified personnel and not due to cost factors.

Tear Sheet

Contents

ABBREVIATIONS

ABS	American Bureau of Shipping
CVS	Commercial Vessel Safety
GAO	General Accounting Office
IMCO	Inter-Governmental Maritime Consultative Organization
MARPOL	International Convention for the Prevention of Pollution from Ships
MIO	Marine Inspection Office
MSIS	Marine Safety Information System
PHS	Public Health Service
SOLAS	International Convention for the Safety of Life at Sea

CHAPTER 1

INTRODUCTION

Marine casualties and their effects, including loss of life and ecological and cost considerations, are of great public concern. During the winter of 1976-77, several tanker accidents resulting in losses of life and property and environmental damage, occurred in or near U.S. waters. These accidents demonstrated the need for an increased effort to improve vessel safety and reduce the risk of resulting pollution. With the increasing numbers of large vessels being built--very large crude carriers and liquefied natural gas carriers--preventive action is required to avoid potentially catastrophic results if present accident trends continue.

The Coast Guard's Commercial Vessel Safety (CVS) Program is responsible for assuring the safety of life, property, and the environment in and on waters subject to U.S. jurisdiction. This responsibility is accomplished through a number of activities, the major ones being

- --inspecting U.S. vessels during construction and periodically thereafter to assure that they are constructed in accordance with approved plans and are maintained in a safe condition throughout their life;

- --boarding both U.S. and foreign vessels in U.S. ports to examine them for compliance with U.S. laws and regulations. Boardings are made for such purposes as examining for tankship (tanker) safety, navigation safety, and pollution prevention and for monitoring bulk liquid cargo transfers and dangerous cargo;

- --administering a merchant vessel personnel program to assure that mariners are physically fit and technically qualified; and

- --participating in developing international maritime safety agreements to insure that foreign vessels entering U.S. ports are constructed, operated, and manned in accordance with the highest degree of safety possible.

The following summary statistical data on commercial vessel casualties reported to and investigated by the Coast Guard show that casualties have almost doubled during the period 1972 through 1976 and demonstrate the need for improving vessel construction, maintenance, and operation to better assure the safety of life, property, and the environment.

	Fiscal year				
	1972	1973	1974	1975	1976 (note a)
Total casualties (note b)	2,424	3,108	3,388	3,305	4,211
Type of vessels:					
Passenger and ferry	115	184	188	175	275
Freight and cargo	621	652	616	561	688
Tankships and tank barges	703	783	800	876	1,053
Fishing, tugs, and miscellaneous (note c)	2,429	3,078	3,521	3,545	4,691
Foreign	249	280	288	394	443
Total vessels involved	4,117	4,977	5,413	5,551	7,150

a/Fiscal year 1976 was a 15-month reporting period.

b/Includes accidents involving damage to vessels and property as well as injuries to mariners and loss of life.

c/Most fishing and tug vessels are uninspected by the Coast Guard and generally do not fall within its CVS Program for inspection or licensing and certifying personnel.

According to the Department of Transportation, a 1968 cost/benefit analysis of the Coast Guard's CVS Program identified large inequities in casualty reporting by various segments of the maritime industry, but this gap has been closing in the 1970s as reflected by an increase in casualty reporting. It added that the towboat operators licensing program in the 1970s has served to acquaint a large number of additional maritime personnel with the requirement for casualty reporting and has resulted in an increase in casualty reporting. Also, the $1,500 damage criteria for reporting incidents has been made less meaningful by inflation, thereby including many more incidents in the reportable category.

Information reported in Lloyd's Register of Shipping also shows that since 1974, vessels lost worldwide are increasing and that total tonnage lost during 1976 was the highest ever recorded.

	Calendar year				
	1972	1973	1974	1975	1976
Total vessels lost	371	363	311	336	345
Gross tons (thousands)	949.3	919.8	869.6	995.2	1,156.1

Associated with the concern over the increased number of casualties is the causes of accidents. This concern has been the subject of Coast Guard and other organizations' studies. The conclusion generally reached was that marine casualties result from many factors involving a series or combination of events and circumstances. In most cases, however, human error or personnel fault is a contributing, if not fundamental, factor.

COAST GUARD

The Coast Guard is one of the oldest continuous Federal Government organizations, having been established by the Congress in 1790. Although the Coast Guard is one of the armed forces of the United States, it functions under the Department of Defense only in times of war or national emergency. Its main functions under the Department of Transportation during peacetime are to (1) administer programs designed to protect life and property at sea, (2) maintain regulatory control over much of the marine transportation industry, and (3) enforce all Federal laws on waters subject to U.S. jurisdiction.

Marine Inspection Offices (MIOs), Captains of the Port, and Marine Safety Offices are the operating units which carry out the functions of commercial vessel and port safety in each district. The Marine Safety Office is a combination of an MIO and Captain of the Port. Some of the major functions performed to insure commercial vessel safety and which are discussed in our report are

--reviewing and approving plans for vessels flying the U.S. flag in accordance with standards prescribed in the Code of Federal Regulations;

--inspecting vessels while under construction at a shipbuilder's yard;

--issuing a Certificate of Inspection when a vessel is completed;

--reinspecting vessels periodically;

--inspecting vessels during drydock;

--boarding and examining foreign flag vessels for tankship safety, navigation safety, and pollution prevention; and monitoring bulk liquid cargo transfers and dangerous cargo;

--licensing maritime personnel, including pilots, to certify that these personnel are physically fit and technically qualified;

--signing on and signing off merchant mariners;

--promoting international maritime safety agreements; and

--providing technical assistance and training to foreign nations.

SCOPE OF REVIEW

We reviewed the CVS Program at Coast Guard headquarters in Washington, D.C., and at three Coast Guard districts--the 8th, New Orleans, Louisiana; the 11th, Long Beach, California; and the 13th, Seattle, Washington.

We reviewed the laws, policies, and procedures for (1) inspecting U.S. flag vessels, (2) licensing maritime personnel, and (3) boarding and examining vessels. We also reviewed the status of agreements and policies dealing with international maritime safety and the Coast Guard's involvement with the international maritime community.

We visited the Coast Guard Institute, Oklahoma City, Oklahoma; the Coast Guard Training Center, Yorktown, Virginia; the National Maritime Research Center, Kings Point, New York; and numerous organizations in and involved with the maritime industry to discuss and obtain information on matters dealing with the Coast Guard's responsibility for insuring commercial vessel safety in U.S. navigable waters.

CHAPTER 2

NEED TO IMPROVE THE EFFECTIVENESS OF THE COAST GUARD'S PROGRAM FOR INSPECTING U.S. VESSELS

To reduce loss of life and damage to property and the environment caused by vessel accidents in U.S. navigable waters, the Congress has passed many laws aimed at increasing marine safety. These laws require that vessels be constructed, maintained, and operated in accordance with established safety standards. The Coast Guard's program for inspecting U.S. flag vessels is only one of many designed to assure that the maritime industry complies with these safety standards. The various categories of U.S. vessel inspections the Coast Guard performs are described in appendix I. With increased responsibilities being given the Coast Guard, such as environmental protection, interdiction of drugs, enforcement of the 200-mile fishing zone, and the tankship boarding program, tremendous demands have been placed on existing staff. Our review showed that the inspection program's effectiveness is impaired because

--shortages of staff and trained inspectors exist and experienced personnel are rotated and

--duplication exists between Coast Guard inspections and American Bureau of Shipping (ABS) surveys.

If the Coast Guard is to improve the effectiveness of its inspection program, these problems will need additional attention. Considering past experience in obtaining additional resources and other programs' staffing demands, however, a more feasible solution might be to transfer selected inspection activities to the maritime industry; specifically ABS.

MARINE SAFETY PROGRAMS ARE IMPEDED BY STAFFING PROBLEMS

The Coast Guard's CVS operating plan and our workload and manpower comparisons both show that the Coast Guard does not have sufficient personnel resources to effectively accomplish marine safety program workloads. Our comparisons of workload 1/ and available manpower shows that the districts

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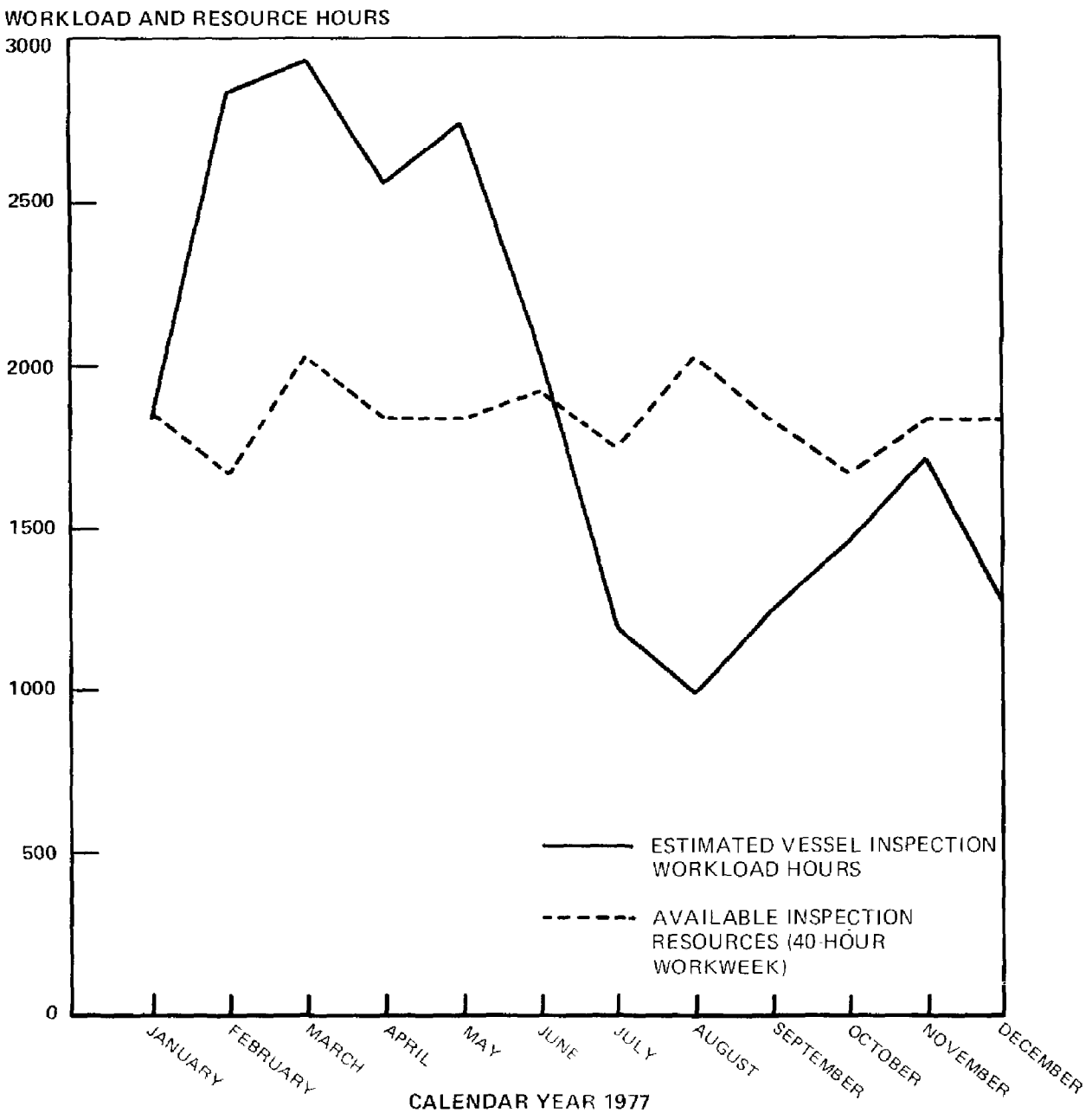
1/ We did not evaluate the Coast Guard's workload standards.

we reviewed had insufficient numbers of marine inspectors to accomplish their workloads without using extensive overtime.

For example, one Coast Guard operating unit had a total of 18 personnel assigned to actual vessel inspection. Of these, 14 were fully or partially qualified as hull or boiler inspectors. Allowances for training and leave reduced this to the equivalent of 11 inspectors. The workload for calendar year 1977 compared to available staff resources is shown below.



As shown above, the workload peaked in the spring and fell off in the summer and fall, while inspection resource hours remained relatively constant. Operating unit officials explained that, although tanker and ferry inspection workload remains relatively constant throughout the year, inspections of container and general cargo vessels are concentrated from January through May. Charter fishing boat inspections are concentrated from April through June, with a second smaller peak in the fall. Inspection of coastwise barges is concentrated from October through May. As a result, the inspectors were required to do extensive overtime work from February through May 1977.

Operating unit officials stated that the workload has been accomplished through extensive overtime, but that this effort could not be sustained. Several memorandums have been sent to district headquarters outlining the continuing critical shortage of inspectors. Headquarters was informed in February 1978 that the situation was untenable and the ability to perform statutorily required functions would be seriously impaired. In May 1978 this problem was intensified by increased vessel construction, which left the unit critically short of marine inspectors to accomplish other inspection activities.

At another operating unit, seven inspectors were assigned to inspect U.S. flag vessels and to board and perform safety examinations of tankships. Officials of this unit stated that, considering time spent on scheduled training and annual and sick leave, only six inspectors were available during the period January 1977 through June 1978. During the peak workload months of April, May, and June, three individuals located at subunits were also assigned as inspectors. During calendar year 1977, the vessel inspection workload was estimated at close to 16,000 hours, of which about 2,500 hours were accomplished outside a 40-hour workweek.

At still another operating unit, although 16 personnel were assigned as field inspectors, only 4 were considered to be qualified inspectors. The inspection workload for calendar year 1977 was about 17,700 hours. Total available staff was sufficient to meet this workload, but only the four were qualified, representing a total of 6,750 hours. Operating unit officials stated that although the total number of inspectors was sufficient, it would be useful to have more qualified inspectors.

Another operating unit at this location--which is responsible for vessel boardings and examinations, including tankship safety examinations--had 20 inspectors assigned to vessel boarding and cargo transfer monitoring. Seven were

considered trainees. Many of the 4,850 boardings made during the period January 1977 through June 1978 were outside the 40-hour workweek, as shown below.

Time period	Estimated hours required for boardings	Available man-hour resources (40-hour workweek)	Workload hours accomplished outside 40-hour workweek
Jan.-June 1977	12,500	7,100	5,400
July-Dec. 1977	11,600	7,100	4,500
Jan.-June 1978	14,800	10,800	4,000
Total	38,900	25,000	13,900

A unit official stated that he had adequate personnel resources to accomplish his boarding and monitoring programs. The validity of this statement depends on several factors: a 55-hour workweek with considerable overtime, adequately trained and qualified personnel, timing and number of vessel arrivals, and Coast Guard Reserve personnel performing about 25 percent of the workload. Another official directly involved in the boarding program told us that seven additional qualified inspectors were needed.

Another operating unit had a total of 44 officers and warrant officers assigned as field inspectors, of which only 19 were considered qualified as hull and/or boiler inspectors. This unit's vessel inspection workload (actual reported hours for inspection of construction and local officials' estimates of time required for other inspections) was over 81,500 hours for calendar year 1977 and 47,500 hours for the first 6 months of calendar year 1978. Based on the number of inspectors available and a 40-hour workweek, resources for 39,000 hours and 26,000 hours, respectively, were available. This would be equivalent to each inspector working 16 hours a day without any time for collateral duties.

Since our review disclosed that inspectors do not work 16-hour days, we can only conclude that inspections are not being accomplished properly or Coast Guard workload standards are questionable and may need revision. The officer in charge of marine inspection told us that although all scheduled inspections are physically accomplished, many unqualified personnel are used and extensive overtime is required. A May 1978 Coast Guard headquarters staffing study estimated a need for an additional 32 inspection positions for this unit. Earlier in March 1978, 11 new positions had been allocated to this unit, but they were to meet the Coast

Guard's new responsibility for inspecting offshore oil and gas platforms rather than for supplementing existing staff needs. These additional inspection duties have further strained staff resources. In addition, our analysis showed that the vessel inspection workload in this unit for the first 6 months of calendar year 1978 increased about 17 percent over the last 6 months of 1977.

The delay in documenting and reporting the results of inspections is another indication of this unit's heavy workload. Ideally, inspection reports are to be completed within 5 days after an inspection is completed. Some inspectors reach this goal, but others may take up to 1 month to submit their inspection reports.

In September 1978, the officer in charge of this inspection unit informed headquarters that it was imperative that immediate action be taken to retain qualified marine safety personnel and to fill authorized positions with trained personnel. At the same time, he stated that the number of working hours must be maintained at a reasonable level to stop the flow of personnel from the Coast Guard to private enterprise.

On July 18, 1977, the Commandant of the Coast Guard issued an overview statement discussing external changes which will affect how the Coast Guard carries out its missions. The Commandant stated that Coast Guard headquarters and field personnel will need to use advanced forecasting techniques "while relying less on intuitive forecasts and trend extrapolation." He concluded that "consideration of alternatives and balances among programs, supported by cost-benefits analysis, will be required." We believe that the Coast Guard needs to undertake a comprehensive and systematic study of the staff needed for inspection activities.

Agency comments and our evaluation

The Department of Transportation, in commenting on our draft report, recognized the need for such a staffing study and is determining which tasks may be eliminated without negatively affecting the marine safety area. In addition, the Department said that (1) the CVS Program standards are being reviewed to identify new mission areas assigned to the Coast Guard by recent legislation which have not been included in tabulating resource needs and (2) based on the revised Program standards, a computerized program will be developed to provide cost/benefit and productivity analyses which will enable the Coast Guard to better predict resource

needs as well as reallocate its existing resources in a more timely manner. We believe that the actions being initiated are responsive to our proposal.

TRAINED AND EXPERIENCED PERSONNEL NEEDED

Most of the inspectors in the three districts included in our review have had at least one tour of sea duty on Coast Guard cutters. Considering this sea experience, along with on-the-job and formal training, it would seem that most inspectors would be highly qualified. However, we found that relatively few field unit inspectors could be considered as qualified hull or boiler inspectors. This has occurred because the Coast Guard has not established uniform criteria or procedures to determine whether inspectors are actually qualified and has not scheduled needed vessel inspection training in a timely manner. In addition, the rotation policy caused by the lack of a specialized job classification or career ladder contributes to the difficulty in achieving and maintaining expertise in marine inspection.

Absence of standards and procedures for qualifying inspectors

The Coast Guard has no established criteria or procedures for determining whether an individual is a qualified inspector. The Coast Guard Merchant Marine Safety Manual states only that it is a customarily accepted fact that it takes 3 years to become a qualified marine inspector. It further states that upon completing the Marine Safety Basic Indoctrination School an officer is considered to have a basic foundation for becoming qualified in the various aspects of merchant marine safety. The manual goes on to say that individual officers may become qualified more quickly but does not specify how. Because specific criteria have not been provided, field units have to use their own criteria and procedures in determining whether an individual is qualified.

One operating unit we reviewed had developed a formal system for determining when an individual is considered qualified to perform vessel inspections on his own. The system is based on a qualified inspector observing a trainee making an inspection and signing a "qualification data" sheet stating that the individual is qualified to perform a particular type of inspection on a particular type of vessel. The individual is qualified in successive steps (with a separate qualification sheet for each) as a hull (structural) or boiler (machinery) inspector capable of performing drydock or certification inspections of

different types of vessels, such as cargo ships, tankships, and passenger vessels.

In contrast to this formalized system, another operating unit has no system for qualifying an inspector. The chief of the inspection department stated that, in the absence of any criteria, he considers all personnel assigned to be qualified once they have completed the 3-month Marine Safety Basic Indoctrination School. As discussed below, we do not believe that completing this training course qualifies an individual as an inspector. Rather, it should be considered only as an indoctrination in marine safety activities.

Operating unit officials in the other two districts we reviewed stated that they considered the entire initial 3-year tour in inspection to be a training experience. Officials at both locations stated, however, that these trainees do become qualified to perform certain types of inspections on particular types of vessels during their initial inspection assignment. They told us that the determination of when a trainee becomes a qualified inspector is a judgemental decision.

Delays in scheduling needed vessel inspection training

The Coast Guard has a number of training courses for individuals assigned to inspection activities. The basic course taken to qualify as an inspector is the marine safety basic indoctrination course. Other short term courses covering specific aspects of inspection, such as weld inspection and ultrasonic testing, are also provided. Personnel assigned to inspection also receive on-the-job training by accompanying qualified inspectors on vessel inspections and boardings.

The 3-month marine safety basic indoctrination course is intended for officers on their first assignment in marine safety. Examples of the background and experience of inspectors are shown on pages 14 and 15. The purpose of the course is to indoctrinate these officers in the basics of marine safety responsibilities and functions. It covers laws, regulations, and standards governing vessel and facility inspections, investigations, documentation, merchant personnel licensing, suspension and revocation preceedings, and pollution response. The course includes all aspects of vessel inspection, such as welding, nondestructive testing, boilers and piping, and electrical installation; however, each of these general areas are covered in 17 hours or less. Specific parts of these general subject areas, such as the different types of nondestructive testing, are given an additional 1 to 3 hours coverage.

As indicated by its stated purpose, this course is only intended to be an indoctrination in marine safety, and in itself does not qualify an individual as an inspector. This course must be supplemented with other short term specialized inspection training courses as well as on-the-job training. Failure to provide the necessary training has contributed to the continuing shortage of qualified inspectors.

In February 1978, the officer in charge of one operating unit pointed out to headquarters that of 18 inspectors, 6 were scheduled for transfer and 2 were retiring. He stated that of the remaining ten inspectors, four had 3 years inspection experience, two had 2 years experience, and four had 2 months or less experience. Only four of the ten were qualified. He said the shortage of qualified inspectors was critical because the qualified inspectors would be burdened with training 13 newly assigned trainees over the next several months. He partly attributed this problem to the difficulty trainees have in securing space in the marine safety school. He said one officer currently attending the school had to wait 5 months to get in; another officer, who had not yet attended the school, had to wait 6 months; and a third had been waiting 3 months and the unit had still not been able to reserve a space in any class. An official of this unit stated that it has also been difficult to get personnel into the follow-on specialized training courses which are necessary to further qualify inspectors. He added that as a result, these inspectors have had to continue to perform inspections without such training.

In another operating unit in another district, we also found that training was of major importance in meeting the unit's workload and the marine safety basic indoctrination course was not available to all trainees as quickly as needed. In December 1977, the officer in charge informed headquarters that he was willing to have his trainees sit outside the classroom and listen through the windows. The lack of inspectors qualified in this unit to provide intensive on-the-job instruction has also inhibited trainees' progress toward qualification. As a result of these problems, very few trainees are designated as qualified inspectors during their first assignment. In September 1978, the officer in charge of this unit expressed concern to district headquarters that trainees were training other trainees and senior officer positions were filled with personnel with limited experience.

The chief of the Marine Safety Basic Indoctrination School said there are about 175 officers who have been waiting for at least 6 months to take the marine safety basic indoctrination course. He attributed part of this

backlog to the training of the additional inspectors that was required when the tankship safety examination program was started. He stated that the backlog would be eliminated by the end of fiscal year 1979 because the course was to be offered seven times during the year rather than four or five times as it had been in the past. However, only one additional course has been scheduled for fiscal year 1979, bringing the total to six. The chief of the school also predicted that the Outer Continential Shelf Lands Act responsibilities would affect the backlog because more inspectors will be needed.

Our observations of Coast Guard vessel inspections

We accompanied inspectors on numerous vessel inspections and boardings of tankships and other vessels. We observed inspections during construction; inspections for recertification; drydock examinations; midpoint inspections; and inspection of repairs or alterations on various types of vessels, including large and small passenger vessels, tankships, container ships, general cargo ships, and barges. Although we noted various inspection and documentation practices, the inspectors generally appeared to be conscientious in performing the inspection. However, in many cases the inspector had not yet completed the required training or qualification period and was still considered a trainee. For example, of 12 inspections in one district, 4 were performed by trainees without a qualified inspector present. Of ten inspections in another district, five were performed by trainees or by partially qualified inspectors.

Rotation policy and lack of a career ladder have reduced inspectors' effectiveness

Every 2 to 3 years the Coast Guard rotates its staff among various duty stations such as search and rescue, buoy tenders, and high- and medium-endurance cutters. Promotions are based primarily on experience, performance, and expertise in a specialized job (e.g., deck or engineer officer, machinery technician, gunners mate, boatswain mate). It takes at least 3 years for an inspector to become qualified, and about the time personnel become proficient in one area, such as vessel inspection, they are transferred and assigned to another job. We found that few field inspectors had previous inspection duty or consecutive assignments at marine inspection offices. The Coast Guard has not established a specialized job classification for inspection activities and has been unable to keep experienced and trained staff in the vessel inspection area. Because promotions are based primarily on expertise, performance, and experience in areas other than

vessel inspection, assignment to an MIO or Captain of the Port can affect a staff member's career.

Some typical rotation experiences of field inspectors, excluding initial training or education, such as the Coast Guard Academy, are shown below (current assignment is shown first with initial assignment shown last).

Current and past duty	Period assigned
OFFICERS	
Inspector A	
MIO (boiler inspector)	1 year
Cutter	1 year
Ice breaker	2 years
Inspector B	
MIO (hull and boiler inspector)	1/2 year
Ice breaker	1/2 year
MIO (vessel inspection--2 1/2 years)	4 years
Ice breaker	1-1/2 years
District Office--naval engineering	1/6 year
Cutter	3/4 year
Inspector C	
MIO (hull inspector)	1 year
LORAN station	1-1/2 years
Cutter	1-1/2 years
Ice breaker	1/3 year
WARRANT OFFICERS	
Inspector D	
MIO/MSO (note a)(boiler inspector)	1 year
Cutter (two different vessels)	2 years
Light ship	1-1/2 years
LORAN station	4 years
Cutter	2 years
Lifeboat station	2 years
Lighthouse	2 years
Cutter	2 years
Inspector E	
MIO (hull and boiler inspector)	2 years
Cutter	1-1/4 years

Current and past duty	Period assigned
Coast Guard base	2 years
Group	1/4 year
Cutter	3-1/4 years
Ice breaker	2 years
Coast Guard base	2 years

ENLISTED

Inspector F

Port Safety Station (port safety)	3 years
Coast Guard cutter (two cutters)	2-1/2 years
Port Safety Station (port safety)	3 years
Vietnam (port safety--explosive loading)	1 year
Port Safety Station (port safety)	1/2 year
Coast Guard cutter (two different vessels)	1-3/4 years
District--Armory	3/4 year

Inspector G

Port Safety Station (port safety)	1-1/2 years
Coast Guard cutter--deck	1-1/2 years
Coast Guard base--search and rescue	2/3 year

Inspector H

Port Safety Station (port safety/pollution prevention)	1-1/2 years
Coast Guard station--search and rescue	1 year

a/Marine Safety Office.

Officers assigned to an operating unit spend only part of their 3-year tour of duty actually assigned to vessel inspection. They are rotated within an MIO to other areas, such as licensing and certificating of merchant marine personnel, investigations, vessel documentation, and shipping commissioners activities. For example, in one operating unit we found that officers were assigned to vessel inspection only about 18 months, which included the 3 months for the marine safety basic indoctrination course.

Coast Guard officials and personnel, as well as individuals in the maritime industry, expressed concern about how the Coast Guard rotation policy affects the overall effectiveness of inspection activities. Some stated that even

inspectors with previous inspection experience never reach maximum proficiency. The intervening periods of other duty, resulting from the rotation policy, interrupt the inspectors' experience and this, along with constant changes in vessel standards from new legislation, make it necessary for inspectors to constantly relearn their job on subsequent assignments as an inspector. Operating unit inspectors said that inspectors needed to have additional expertise to gain the respect of the maritime industry. One said that, at present, most inspectors are not knowledgeable enough to provide industry with a precise interpretation of marine rules and regulations.

The officer in charge of one operating unit told district headquarters in September 1978 that an evaluation of the present 3-year rotation policy was essential. He said the present policy was not realistic and it precluded many units from functioning properly. He cited his own unit, where most assigned personnel were untrained, as an example of trying to simultaneously achieve quality production with trainees where both work volume and variety were excessive. He stated that a 3-year tour of duty with trainees precluded quality performance and a professional image. Some personnel have never boarded a ship before this assignment where they must deal with port captains or engineers with 20 to 30 years experience. He suggested a 6-year tour of duty at his particular marine inspection office to provide for both training and production capability.

Officials of three operating units in two other districts also suggested that the 3-year tour of duty be extended to 4 or 5 years. They stated this would give personnel time to become knowledgeable in all of the unit's activities, gain experience, become more proficient in vessel inspection, and contribute to the accomplishment of the workload. In addition, officers were also required to become knowledgeable in other areas, such as licensing and investigation activities, pollution prevention and response, and port safety and security. Officials felt it was too much to expect that an individual could become highly proficient in all or any of these activities in such a short time.

Another Coast Guard official stated that rules and regulations governing vessel inspections change so often, an individual would have to work with them continuously to stay proficient. He and another official stated that a 3-year assignment was sufficient for an individual to become a proficient inspector, but the rotation policy interfered with the individual maintaining proficiency. Two inspectors with prior inspection experience but intervening rotation to other duty said it took them from 6 to 12 months on the

new inspection assignment to regain the proficiency level acquired on the previous assignment.

The U.S. Maritime Administration and industry officials were concerned about the inconsistent manners in which vessel inspections were conducted at different ports. They stated that the Coast Guard's 3-year rotation policy caused discontinuity in inspection practices at different ports and that Coast Guard inspectors were unable to acquire the necessary expertise before rotation. Another official said that while, overall, the Coast Guard did a good job of vessel inspection, disparities in inspections at different ports definitely existed. He attributed this to the Coast Guard's rotating its personnel every 3 years and to the relative autonomy of districts and field units in carrying out their responsibilities, resulting in different interpretations of marine safety requirements.

Position qualification system developed

The Coast Guard, recognizing a need to identify qualified inspectors, recently developed a position qualification system. Through this system the Coast Guard can keep track of individuals who develop expertise in a special area and the various positions requiring such expertise.

We recognize that alternative approaches exist for retaining qualified personnel in the inspection program. We believe that the new system should show improvements in (1) keeping track of qualified personnel who develop expertise in a special area and (2) using such information to reassign personnel to positions needing such expertise. We believe that establishing a separate specialty for the inspection function would be a more effective method of retaining experienced personnel because the individuals would have (1) professional advancement opportunities in their specialty and (2) an incentive to maintain job knowledge even when not on inspection assignments. We believe that individuals with this specialty--when reassigned to the inspection areas--would provide continuity of required skills as others leave and would provide such continuity without additional training.

Agency comments and our evaluation

The Department of Transportation agreed that a need exists for more trained and experienced personnel and added that in-house training was being expanded. One action being taken is to install videotape training machines in all field units during the summer of 1979. The Department stated that it plans to contract for establishing standards for personnel qualifications. The contract will

require (1) identifying skill requirements necessary to perform each of the tasks performed by field personnel and to determine what qualifications are necessary, (2) reviewing the Coast Guard's existing training programs to identify gaps, and (3) providing recommendations for effective and comprehensive training for marine safety personnel. We believe that this action is responsive to our proposal.

The Department said that enlisted personnel who serve in the CVS Program have had applicable training. If a new inspection rating was established, the needed training would no longer be available and an entirely new and duplicative training effort would have to be undertaken. In addition, several Coast Guard mission areas can use the existing ratings, but an inspection rating would be limited to one program. The Department added that the Coast Guard has considered both establishing an inspection specialty classification and extending the inspection assignment tour. The Department also said that enlisted qualification codes are to be expanded, which will provide the assignment officers with the necessary information to better utilize individuals after their initial tour at a marine safety office. It added that establishing an inspection specialty classification is conceptually more appealing, but when considerations of the Coast Guard's multimission nature are taken into effect, the existing system better fills the needs of the entire Coast Guard. Officers are given specialty classifications and rotate in and out of the CVS Program based on the overall needs of the service.

We recognize that the Coast Guard operates under a multimission concept. We believe, however, that establishing an inspection specialty classification for both officers and enlisted personnel would still (1) allow rotation between various noninspection offices and (2) provide continuity of required inspection skills as persons with such a rating are reassigned to an inspection unit. This is especially true since their professional advancement would be based on their inspection expertise, thereby enhancing the inspection program without significantly affecting the Coast Guard's multimission concept.

We agree that an applicable training program would have to be established for an inspection rating and that some persons in other ratings--an engineman, electrician, etc.--should still receive inspection training when assigned to an inspection unit, would perform inspection duties when assigned to such a unit (under the multimission concept), and an inspector would perform other duties when not assigned to an inspection unit. A person with an inspection rating would have more specialized training and, in our

opinion, the benefits of assuring such inspection expertise is maintained outweighs the effect of some duplicative training.

DUPLICATION BETWEEN COAST GUARD INSPECTIONS AND ABS SURVEYS

ABS was created in 1862 by the New York Legislature as a nonprofit, international ship classification society with the primary function of certifying the soundness and seaworthiness of merchant ships and other marine structures. ABS has been inspecting vessels almost as long as the Coast Guard and its predecessor agencies. Just as the Coast Guard sets vessel safety standards, ABS establishes standards known as "rules" for the design, construction, and periodic survey of vessels. ABS classes ships for the ship owners so that insurance can be obtained. The classification is based on design review, inspection during construction, and periodic surveys thereafter. This classification, which vessel owners pay for, assures owners, shippers, underwriters, and others that the vessel is structurally and mechanically safe and fit for its intended service. ABS personnel who inspect and class ships are collectively known as surveyors. They include naval architects, marine engineers, and experienced seagoing engineers. ABS has about 640 surveyors located in major ports throughout the world.

The Coast Guard is actively involved in the direction and administration of ABS. The Commandant is an active member of the ABS executive committee. In addition, Coast Guard representatives are members of committees and subcommittees to assure that the rules adopted by ABS for vessel structure and equipment meet the minimum standards of Federal regulations. ABS sphere of interest is almost identical to the Coast Guard's except that it has no enforcement authority for Federal laws and regulations; that is the Coast Guard's responsibility.

Although the responsibility for certain aspects of marine safety have already been delegated to ABS by statute and regulations and ABS attempts to cooperate with the Coast Guard wherever possible, overlap and duplication still exist. To eliminate this duplication, certain aspects of the Coast Guard inspection program could be transferred to ABS. This would allow the Coast Guard to reallocate personnel resources to other programs that are experiencing increased demands on staffing.

Transferring inspection responsibility to ABS has been considered

Transferring the responsibility for inspecting U.S. flag vessels to ABS has been considered in the past. A 1968 Coast Guard study of cost, benefits, and effectiveness of the Merchant Marine Safety Program considered in detail the possibility of combining Coast Guard inspection activities with those of ABS. The alternatives considered were

--accept ABS inspection results as proof that a ship is safe and

--pay ABS to do additional inspection, either using Government funds or payment from vessel owners.

The study noted that ABS classed all U.S. flag seagoing merchant vessels, although this is not required. The study also noted that the Coast Guard has already delegated certain plan review and inspection and certification functions to ABS. For example, the Coast Guard accepts ABS

--assigned load lines and annual load line surveys (see picture on page 21),

--Cargo Ship Safety Construction Certificates as required by the 1960 International Convention for the Safety of Life at Sea (SOLAS),

--Cargo Gear Certificates as evidence that a vessel's cargo handling gear is in satisfactory condition, and

--welders qualification as proof of a welder's competency.

Also, when a vessel is designed to ABS rules and ABS approves the design, the Coast Guard, as a matter of policy, does not duplicate the ABS plan review process. The study report noted the cooperation that exists between inspectors and surveyors from the Coast Guard and ABS, even to the extent of sharing the workload during peak periods. It further commented that for several years the Coast Guard had been reviewing its relationship with ABS in an effort to eliminate duplication of efforts.

The study concluded that because ABS surveys were directed at deteriorating machinery and hull, but not at personnel hazards or safety equipment, accepting ABS surveys as presently conducted would significantly reduce safety benefits. The study considered increasing the scope of ABS inspection to include personnel hazards and safety equipment and charging vessel owners for inspection. The study report

concluded, however, that the same result would be achieved if the Coast Guard instituted user charges for its inspections. Apparently, no consideration was given to combining ABS surveys as presently conducted with the Coast Guard inspection of vessels for personnel hazards and safety equipment.

A National Academy of Sciences December 1970 report on the U.S. merchant marine safety regulatory system noted the considerable duplication in safety standards, certification, and survey activities among Government agencies and non-Government bodies. The Academy concluded that unnecessary regulation and enforcement procedures should be eliminated. The report cited as an example, Coast Guard and ABS duplicative regulation of vessel machinery. The report noted that 90 percent of Coast Guard and ABS machinery standards were similar and that Coast Guard inspectors and ABS surveyors often inspected the same structural and machinery items, often accepting each other's inspection results.

The Academy noted that Coast Guard and ABS inspection of new vessels during construction was essentially the same. ABS surveyors checked all materials and workmanship to assure the vessel was built according to approved plans and applicable rules. The Coast Guard inspected material, machinery to be installed, lifesaving and firefighting equipment, and the vessel's structure to assure the vessel complied with applicable regulations and the approved plans. The report stated that since the Coast Guard and ABS often cooperated in conducting inspections, much potential duplication had already been eliminated. The Academy also noted the duplication of testing by inspectors of the different agencies, but commented that often one agency's tests were accepted by the other and concluded that the practice of agencies accepting each other's inspections should be expanded to reduce the number of inspections.

In addition, the Academy noted the considerable duplication between ABS rules and Coast Guard regulations for periodic inspections of operating vessels. Both agencies required an annual inspection that covered essentially the same items--structure, boilers, machinery, and equipment. The Coast Guard also examined fire protection, lifesaving equipment, and other safety equipment. At 2-year intervals, both the Coast Guard and ABS inspected the boilers, steering gear, piping systems, tail shaft, hull structure, and watertight doors. Although the Coast Guard certification (2-year interval) inspection is considerably more detailed than the ABS inspection, every 4 years ABS conducts special surveys considerably greater in detail and scope than the Coast Guard and the scope increases as the vessel ages. The report commented that it appeared the periodic ABS and Coast Guard inspections could easily be coordinated, but cited several

factors making this more difficult, such as the inspections by the organizations often being out of phase and the possibility of ABS surveys being conducted in foreign countries.

The report recommended that the Coast Guard delegate to ABS all regulatory functions regarding ship structure and machinery, including design and plan approval, inspection, survey, and certification. It noted that a change in legislation would be required to permit this delegation. The Academy also recommended that the Coast Guard retain authority and responsibility for marine safety functions, such as lifesaving, dangerous cargo, casualty investigations, and licensing and discipline of seagoing personnel.

The situation described above still exists today. The Coast Guard and ABS each conduct periodic inspections or surveys to determine the condition of a vessel's hull and machinery. However, the local Coast Guard officer in charge of marine inspection or the ABS principal surveyor generally has the prerogative of accepting the other's inspection results. The Coast Guard still has the additional responsibilities, however, of assuring compliance with lifesaving and firefighting equipment, pollution prevention regulations, and manning standards.

In observing vessel inspections by Coast Guard inspectors, we found that ABS surveyors were at times inspecting the same work. For example, we observed a Coast Guard inspection of machinery repairs on board a U.S. flag tanker; the Coast Guard inspector and ABS surveyor were examining the repaired machinery together. Their joint conclusion was that the repair was satisfactory. The Coast Guard inspector in this case told us this was a good example of duplication. On another Coast Guard inspection which we observed, an ABS surveyor was also present and inspected the same work. The Coast Guard inspector in this case stated that many times the Coast Guard and ABS perform inspections simultaneously and at times split the work and share the results.

The Coast Guard CVS operating plan, as revised in March 1978, addressed the ABS inspection alternative which the Coast Guard studied in 1968 and the National Academy of Sciences studied in 1970. The plan commented that the ABS alternative had been effectively addressed in the 1968 study. The program plan stated that the Coast Guard and ABS and other nonprofit organizations dedicated to material safety objectives had enjoyed a long term partnership and that the Coast Guard had delegated responsibility to these other organizations for CVS standards, such as plan approval, load lines, cargo gear, and cargo storage. The program plan, while recognizing that ABS and other third party agencies serve important objectives,

concluded that ABS objective was protecting the owner's investment and that it was in reality "servile" to the vessel owner.

We do not believe that any difference exists between a vessel that is safe for an owner and a vessel that is safe for the public or that the maritime industry is any less concerned about the safety of a vessel than is the Coast Guard. While the ship owners pay ABS for classing a vessel, it is done primarily for the underwriters who insure the vessel. Without such insurance, the shipper would be reluctant to use the vessel. The inspections are done in accordance with rules that are established and approved by an ABS executive committee which has as a member the Commandant of the Coast Guard or his representative. Although the Department of Transportation stated that this does not constitute effective control of the ABS standards or to the decisions made by field surveyors, in our opinion it prevents ABS from being totally servile to the maritime industry. Additional controls, such as Coast Guard monitoring of ABS inspection activities, can be instituted to accommodate the need for independence.

Comments from Coast Guard officials and the maritime industry varied on the feasibility of ABS assuming certain inspection responsibilities presently performed by the Coast Guard. Some disagreed, some had reservations about certain items, and others totally favored ABS taking over this function.

One Coast Guard headquarters official stated that while the Coast Guard referred to ABS standards for hull and machinery surveys and accepted its load line certification, ABS surveys were narrower than the Coast Guard's because they did not concern themselves with personnel protection and fire-fighting equipment. ABS officials agreed that they do not make personnel protection and fire equipment inspection aboard ships. However, they said that they could make such inspections. 1/

1/The Coast Guard inspects safety equipment at manufacturers' plants. ABS officials said that they do not wish to make such plant inspections because it would require significant increases in its staff.

Other headquarters officials said that ABS structural and mechanical standards did not vary "that much" from Coast Guard standards, but that standards for boilers, piping, and electrical systems were different. Also, ABS has no standards for fire protection systems. In these areas, ABS largely followed rules of SOLAS 1960. The officials agreed that duplication existed between ABS and Coast Guard surveys and inspections and that Coast Guard could delegate some areas of its inspection program to ABS. The specific areas would have to be negotiated by the Coast Guard and ABS. As an alternative, they suggested that perhaps a quality assurance system could be worked out with shipyards where the Coast Guard would monitor the shipyard's program. The inspectors, thus freed up, could be used in other priority Coast Guard programs, such as boarding uninspected U.S. vessels.

One operating unit official stated that the Coast Guard has already delegated some marine safety activities to other organizations and relies on them to help assure vessel safety. For example, the Coast Guard relies on ABS-issued Load Line Certificates for U.S. flag inspected vessels. Also, the Coast Guard does not duplicate certain ABS plan reviews, but accepts its plan approval essentially at face value.

This official also stated that transferring all or some Coast Guard U.S. flag vessel inspection activities would release needed inspection personnel resources for other marine safety activities needing attention; for example, the boarding and examination of uninspected U.S. commercial vessels. He said it would be desirable to expand the vessel boarding and examination activities--foreign flag tank vessel boardings and safety examinations of U.S. commercial uninspected vessels.

Further, this official stated that he had no doubts as to the capability of ABS surveyors to perform vessel inspections. He said the scope of the ABS vessel survey would have to be expanded to cover personnel safety aspects to a greater extent than it does at present. He stated that although some difficulties may occur in working out the mechanics, he saw no reason why the Coast Guard could not issue Certificates of Inspection to U.S. flag vessels based on ABS inspection reports. He added that the language of some vessel inspection legislation would have to be modified to allow this.

Another operating unit official stated that the Coast Guard should leave the vessel inspection business. He said that in the case of new vessel construction or vessel conversion, the vessel owner, the vessel insurer, ABS (in the case of classed vessels), and the Coast Guard were all inspecting

the same work--which was unnecessary duplication. He said that, in the case of reinspections, midperiods, and drydock examinations of operating vessels, Coast Guard and ABS inspectors often worked side by side. He said that ABS inspectors are highly qualified--more so than Coast Guard inspectors--because they are not sidetracked by intervening assignments to other duties. He further stated the manpower resources which the Coast Guard expends on inspecting U.S. vessels under construction and on reinspecting them during their operating life could be more productively used in other marine safety programs.

ABS headquarters officials stated that ABS had been working with the Coast Guard for many years. They commented that some progress has already been made in reducing duplication between ABS and Coast Guard activities. For example, ABS has primary responsibility for reviewing vessel hull plans, while the Coast Guard has primary responsibility for vessel machinery plans. Also, the Coast Guard accepts ABS load line determinations. ABS, in its surveys, is primarily concerned with a vessel's hull and machinery. On the other hand, the Coast Guard is also concerned with personnel protection and firefighting systems and equipment. ABS could handle additional Coast Guard responsibilities, such as construction and periodic vessel inspections, with little increase in personnel or in fees to the shipowners. Authorizing legislation would be required for ABS to assume any further Coast Guard vessel inspection or certification responsibility.

One ABS principal surveyor stated that ABS would be willing to assume Coast Guard hull and machinery inspections, but that the Coast Guard should retain responsibility for life support systems and safety equipment. He commented that duplication of effort was present in ABS surveys and Coast Guard vessel inspections. He said that both ABS surveyors and Coast Guard inspectors could be found performing drydock, hull and machinery, tailshaft, electrical, and boiler surveys or inspections together. He stated that the Coast Guard's 3-year rotation policy made it impossible for its inspectors to become experienced.

Another ABS principal surveyor was optimistic that ABS could assume additional responsibility for vessel inspections. He stated this would just be an extension of what ABS now does. He stated that legislative changes, as

well as negotiation between ABS and the Coast Guard, would be required. The ABS staff has been very stable and the surveyor views the Coast Guard's rotation policy as the Coast Guard's major problem because it has many untrained or inexperienced inspectors. ABS encourages coordination of its survey work with Coast Guard inspectors. The surveyor also stated that ABS survey and Coast Guard inspection work used to be liberally shared, but this has decreased because of the less qualified Coast Guard inspectors.

Officials of various shipyards held differing views. Some stated that both the Coast Guard and ABS should continue inspecting vessels, while officials of other shipyards thought this was unnecessary duplication and that ABS could assume all Coast Guard vessel inspection. One official who held the first view said Coast Guard inspectors had the "clout" necessary to force the few vessel owners that would not abide with current standards to make required changes. This was not true of ABS. Others stated they thought that if ABS was responsible for vessel inspection rather than the Coast Guard, safety standards would be reduced.

Shipyard officials who believed that ABS should assume all vessel inspection from the Coast Guard commented on the duplication of inspection effort. At the same time, they expressed the thought that the Coast Guard should continue inspecting safety equipment, such as life boats and jackets and navigation equipment. These same officials commented on the Coast Guard's general lack of trained inspection personnel. One added that as Coast Guard inspectors become qualified they are tranferred (rotated).

Vessel owners and operators also held differing views. An official of one shipping company stated that the Coast Guard should not be involved in inspecting commercial vessels other than for personnel protection and firefighting equipment. An official of another shipping company stated the Coast Guard inspectors were "sharp" but lacked the experience of ABS surveyors. He commented further that Coast Guard inspection and ABS surveys overlapped and that Coast Guard drydock and boiler inspections could be eliminated because these were "done so well" by ABS. A third shipping company official, on the other hand, commented that if U.S. vessel inspection were transferred to ABS and the Coast Guard stopped inspecting vessels, the safety of U.S. flag ships would decrease. He commented that both Coast Guard and ABS inspections were needed because they provided a "check" on each other.

Agency comments and our evaluation

The Department of Transportation agreed that duplication exists between Coast Guard inspections and ABS surveys. It added, however, that this is not necessarily bad and has not been proven cost ineffective. Further, it stated that more often than not, especially in new construction, it is more apt to be a team effort rather than the individuals going over the same ground. No thought is given to duplication of effort, because each individual brings varied background and experience to the testing and the end result is a safer product.

We recognize that the Coast Guard inspectors and ABS surveyors try to work together where possible to reduce duplication; however, with the significant number of unqualified Coast Guard inspectors, we believe that the extent to which ABS surveyors can rely on the expertise of the Coast Guard inspectors is limited.

The Department concurred with our recommendation that consideration be given to transferring more aspects of the inspection program to ABS and has the matter currently under consideration. It added, however, that concerns have arisen which indicate that this matter must be handled with great care to insure that the transfer of further inspection functions does not prove counterproductive. These concerns are that (1) removal of personnel from inspection activities will further reduce expertise necessary in other areas of marine safety, (2) it was the failure of third party inspection agencies or foreign governments that led to the present Coast Guard inspection of foreign flag passenger ships in 1966 and more recently the foreign flag tank vessels in 1977, (3) ABS does not class small passenger vessels, certain public vessels, inland barges, towboats, or offshore supply boats and ABS is not the only classification society employed for U.S. flag vessels, and (4) a monitoring procedure necessary to assure that Coast Guard authority is complied with would require a fairly large staff, which might result in a minimal saving of resources.

We agree that care should be exercised in considering the transfer of additional inspection functions to ABS. However, we believe that the Department's concerns can be overcome and appropriate safeguards established to assure that U.S. flag vessels continue to comply with safety requirements. To accomplish this, an inspection specialty

classification for monitoring personnel and specialized training with assistance provided by ABS could be established. Also, we feel confident that existing Coast Guard authority to withhold issuance of a Certificate of Inspection would provide the maritime industry with incentive to comply with safety requirements.

CONCLUSIONS AND RECOMMENDATIONS

Generally, Coast Guard personnel who inspect U.S. vessels are conscientious and dedicated to assuring that U.S. vessels are safe. However, these characteristics alone will not overcome the staffing problems identified in our review. We believe that the staffing shortages, lack of trained inspectors, and rotation of experienced personnel, make the inspection program's effectiveness somewhat questionable. To alleviate these problems, we recommend that the Secretary of Transportation direct the Commandant of the Coast Guard to:

--Comprehensively and systematically study the staffing needed to carry out the various activities in the Coast Guard's CVS Program. Such a study, based on cost/benefit analysis as identified by the Commandant, should determine and justify staff resources needed and those resources which the Coast Guard can reasonably expect to obtain to meet its responsibilities under existing mission requirements.

--Improve the quality of existing staff by expanding in-house training and establishing standards for personnel qualifications in the inspection area.

--Retain expertise by establishing an inspection job specialty classification and/or extending the length of the rotation cycle for inspection personnel to provide the expert leadership needed in this mission.

In view of the Coast Guard's limited resources, transferring certain aspects of the inspection program to ABS may be feasible. By transferring these aspects to ABS, with the Coast Guard maintaining a monitoring role, the inspection responsibility would be fulfilled. Further, personnel resources could be made available for other Coast Guard programs. If this alternative is selected, the Coast Guard should initiate action to develop, in conjunction with ABS, the specifics for this transfer. Reservations previously expressed, such as ABS independence, should be considered during negotiation between ABS and the Coast Guard and

appropriate provisions included in the legislation authorizing ABS to assume the inspection function. After the details have been agreed on by both parties, the Coast Guard should seek congressional approval for the transfer. To accommodate the need for ABS independence and quality inspection, the legislation authorizing ABS to assume the inspection function for U.S. flag vessels should include necessary controls, safeguards, or requirements. The Coast Guard should establish a quality control program to periodically check on the quality of ABS inspections.

CHAPTER 3

VESSEL BOARDING AND EXAMINATION PROGRAMS SHOULD BE EXPANDED AND IMPROVED

The Coast Guard boards and examines U.S. and foreign vessels to determine compliance with regulations for tankship safety, pollution prevention, navigation safety, and the handling of hazardous/dangerous cargo. This is to provide greater assurance that U.S. ports and waterways are safe. Our review showed that these programs are not as effective as they could be because:

--Headquarters has provided minimal direction.

--The frequency of boarding tankships has been reduced.

--The Coast Guard has ineffectively followed up on identified tankship safety deficiencies.

--The Marine Safety Information System (MSIS) is not accomplishing its intended purpose.

--Monetary penalties are not effectively used to deter vessel safety and pollution prevention violations.

--Low priority is given to boarding uninspected U.S. commercial vessels.

In addition to inspecting U.S. flag vessels during construction and periodically thereafter, the Coast Guard has been boarding U.S. and foreign flag vessels to insure compliance with safety regulations. Until recently, these examinations were limited to checking firefighting and safety equipment, documentation, and hazardous cargo manifests and stowage.

In 1974, the vessel boarding program was expanded to include examination of foreign and U.S. flag vessels for compliance with pollution prevention regulations. In January 1977, the Coast Guard again expanded its boarding programs to include tankship safety examinations, which included examining cargo venting and handling systems, related safety equipment, and cargo transfer procedures. In June 1977, the boarding program was further expanded to include examination of U.S. and foreign flag vessels for compliance with newly established navigation safety regulations.

More than one examination is usually performed during a boarding. For example, pollution prevention and navigation safety examinations of tankships are usually performed in conjunction with a tankship safety examination. At the same time, the Coast Guard may monitor the cargo transfer operation. Also, navigation safety, pollution prevention, and dangerous cargo examinations may be performed on the same boarding of a cargo vessel. The various types of boardings and examinations the Coast Guard conducts are described in appendix I.

HEADQUARTERS HAS PROVIDED MINIMAL DIRECTION IN BOARDING AND EXAMINATION PROGRAMS

Coast Guard headquarters has played a minimal role in developing and administering the boarding and examination programs. The Commandant issued instructions in January 1977 initiating the program for boarding and examining U.S. and foreign tankships to assure the integrity of cargo venting and handling systems, related safety equipment and installation of such equipment, and proper cargo transfer procedures. These instructions did not specify how frequently the tankship safety examination should be performed nor did they establish any standard procedures for the examination.

Because headquarters did not provide any frequency criteria or procedures for boarding and examining tankships, the districts and field units developed their own. As a result, many inconsistencies exist among the field units conducting the boardings and examinations, as discussed below.

Headquarters did not provide a standardized checklist for field units to use in performing the foreign tankship safety examinations, provide a format for letters to the vessel's master stating the results of examinations, or establish an examination frequency until February 1978. In May 1978, headquarters directed all field units to adopt the standard form letter provided with the February 1978 instruction. This was prompted by repeated complaints from foreign vessel owners and operators, as well as foreign administrations, about the indiscriminate use of locally prepared letters for stating the examinations' results.

Inconsistencies in conducting vessel boardings and examinations

Generally, vessel boardings and examinations by inspectors we observed appeared to be consistently thorough and complete. In other cases, however, we noted weaknesses

and inconsistencies in the examinations' quality. Some inspectors were not as qualified or experienced as other inspectors (see ch. 2) and often merely "went through the motions" of examining the vessel. In reviewing case files on boardings of selected tankships in each district we visited, inconsistencies in the findings of inspectors in different ports were found.

For example, one tankship was boarded on June 9, 1977, and three safety deficiencies were found which were required to be corrected before the vessel's next visit to a U.S. port. On June 13, 1977, just 4 days later, the vessel was boarded in another district, and the deficiencies had not been corrected. Eight days later, on June 21, 1977, the vessel was boarded in a different district for a tankship safety examination and no deficiencies were found. Two days later, on June 23, 1977, the vessel was again boarded for a tankship safety examination in this same district but at another port and the inspector found that the same deficiencies noted on June 9 still existed and identified four other tankship safety deficiencies and a violation of pollution prevention regulations.

We accompanied inspectors on numerous cargo vessel boardings for dangerous cargo, pollution prevention, and navigation safety examinations and monitoring of bulk liquid and oil transfers between vessels and onshore facilities. Again, inconsistencies existed in how the inspectors performed these examinations. Some examinations were superficial and incomplete and appeared to serve no useful purpose. For example, on one boarding, inspectors did not see or even ask for the required signed copy of a dangerous cargo manifest or, although they requested to see the vessel's certificate of financial responsibility for damage to the environment, it was never furnished for examination. Further, many inspection checklist items were marked as being in compliance even though the inspector had not checked the item. No violation report was issued for noted violations of hazardous cargo regulations. The inspectors making the examination appeared to be concerned only in completing it quickly with no regard for thoroughness. This examination was completed in approximately 30 minutes. A Coast Guard inspector told us that a thorough examination using the checklist would require as much as 32 hours. His supervisor said, however, that such an examination should take about 1-1/2 hours.

On a cargo transfer monitoring that we observed, the inspectors were lax in checking compliance with pollution prevention regulations. Again, in many instances, the checklist was marked showing the vessel to be in compliance

even though the inspector had not checked the item. For example, the monitoring checklist requires the inspector to check the emergency shut-down switch on the vessel. Although the inspector had marked the checklist to show this item to be in compliance, when asked to show us the device, he could not and in fact we had to identify it for him.

We observed another examination which appeared to be adequately done, but violations found were never reported to the district office so that a penalty could be assessed against the violator. A thorough vessel examination serves no useful purpose if the vessel's master, operator, or owner is never advised of violations found so that corrective action can be taken.

Although headquarters has directed all field units to adopt the standard form letter to be issued to the vessel's master stating the results of tankship safety, navigation safety, and pollution prevention examinations and has provided a standardized checklist to be used in performing these examinations, inconsistencies still exist.

Agency comments and our evaluation

In commenting on our draft report, the Department of Transportation agreed that minimal direction had been provided by Coast Guard headquarters for boarding and examining U.S. and foreign tankships. The Department added that additional program direction has been given to field units and continued effort is being expended in this direction. Such action, if fully taken, would be responsive to our proposal.

FREQUENCY OF BOARDING TANKSHIPS FOR SAFETY EXAMINATIONS HAS BEEN REDUCED

In addition to the staffing problems discussed in chapter 2, there was an absence of boarding frequency criteria from headquarters in its January 1977 instructions initiating the tankship safety examination program. Some districts established procedures to conduct tankship safety examinations every 90 days. In addition, tankships coming into a port with outstanding deficiencies were boarded and examined to see that the deficiencies had been corrected. In February 1978, revised headquarters instructions reduced the frequency of boarding tankships for these safety examinations to once annually.

It does not appear that performing safety examinations only annually is sufficient to assure that tankships are safe and will present no hazard to U.S. ports in the intervening year. The types of deficiencies found in these examinations are caused by normal corrosion and wear encountered at sea and thus can recur over a short term. The various deficiencies are constantly found on repeat boardings of the same vessels over short periods of time.

Our analysis of tanker boarding and examination files and reports showed continued tankship safety examination deficiencies from boarding to boarding, even on repeat boardings of the same vessel on a 90-day or greater frequency.

Some specific examples are shown below.

Vessel	Port where boarded	Date of boarding	Tankship safety deficiencies found
A	Baltimore	2/19/77	6
	Port Arthur	6/12/77	28
	Philadelphia	7/26/77	7
	Seattle	9/03/77	12
	Boston	12/19/77	2
B	Port Arthur	3/23/77	11
	Seattle	4/19/77	4
	Los Angeles	5/15/77	2
	Seattle	7/05/77	0
	Port Arthur	10/15/77	a/ 0
	Seattle	3/16/78	a/ 7
C	Seattle	2/17/77	7
	Seattle	4/29/77	3
	Los Angeles	7/09/77	0
	Los Angeles	9/18/77	3
	Seattle	4/04/78	0
D	San Francisco	3/16/77	2
	Seattle	4/05/77	15
	San Francisco	6/09/77	4
	Los Angeles	6/13/77	4
	Seattle	6/23/77	4
	Los Angeles	2/10/78	a/ 1
E	New Orleans	7/20/77	a/ 6
	New Orleans	9/29/77	a/ 5
	New Orleans	11/11/77	a/ 5
	Corpus Christi	12/21/77	a/ 0

a/ Navigation safety and/or pollution prevention violations were also identified.

The safety deficiencies most commonly found in tankship safety examinations include cargo and pumproom vent system deficiencies such as defective or missing flame screens (see picture on p. 37) and pressure/vacuum valves, and wasted and holed vent piping (see picture on p. 37), masts, and headers. Cargo handling and piping system deficiencies most commonly found are inoperative or excessively leaking cargo pumps and valves and wasted, holed, and leaking piping, flanges, and connections. Defective explosion-proof lights and improper wiring causing a possible ignition of fumes and fire protection system deficiencies, such as inoperative fire pumps and wasted and holed fire main piping, are also commonly found. Defective steering gear systems and defective or inoperable auxiliary or emergency generators are also often found.

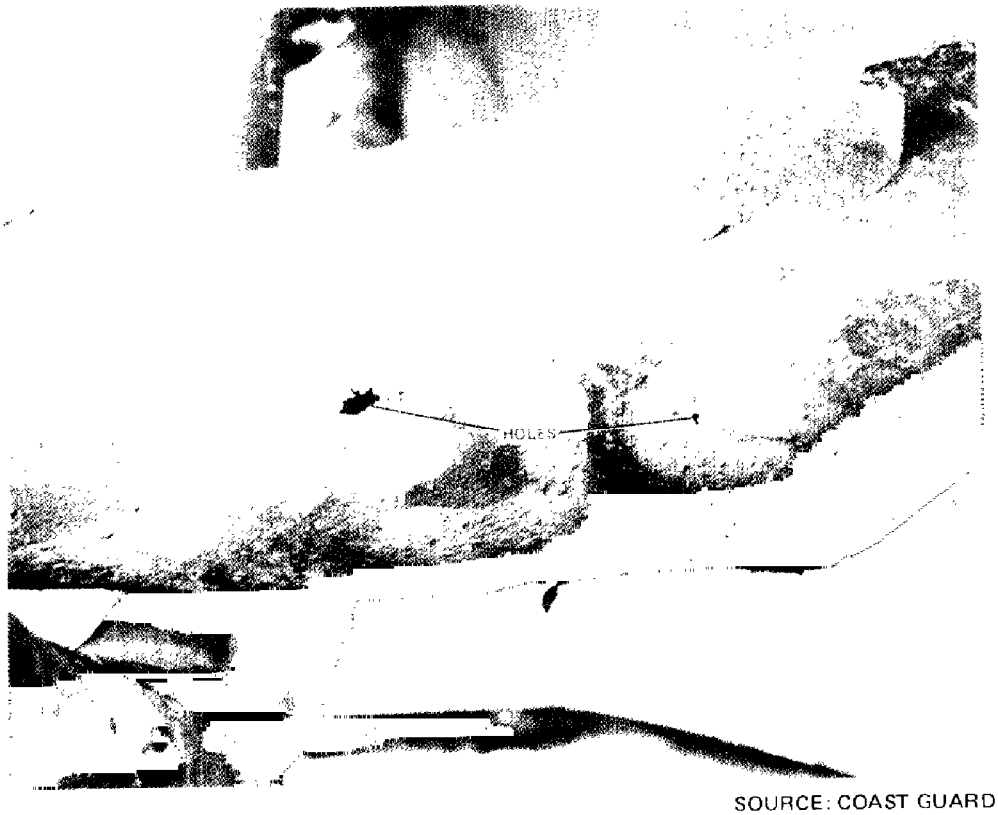
Coast Guard vessel inspection officials agreed that it was common for new deficiencies to be found on tank vessels even when boarded at frequent intervals. Some stated that continuing to board and examine tank vessels on the original 90-day frequency criterion would still be desirable and that "problem child" tankers should be boarded even more frequently.

The vessel inspection officials stated that tankship safety deficiencies recur because vents and cargo piping are subject to constant corrosion from saltwater; pumps and valves are subject to normal wear; and piping joints, bulkheads, and plating are continually subject to cracking due to the stresses imposed by the vessel "working" while at sea.

U.S. flag tankships are no longer included in examination program

During the first year of the tankship safety examination program, in the districts we reviewed, U.S. flag tankers, as well as foreign flag tankers, were boarded for tankship safety examinations every 90 days.

SOURCE: NATIONAL TRANSPORTATION SAFETY BOARD



SOURCE: COAST GUARD

The January 1977 headquarters instructions which established the tankship safety examination program specifically included U.S. flag tankers and provided for the same scope of examination as foreign tankers. In February 1978, however, these instructions were modified, establishing standardized guidelines and procedures for examining foreign flag tank vessels. The instructions stated that the inspection procedures for U.S. flag tank vessels were well established and further guidelines were not considered necessary.

District officials told us they interpreted the new instructions to exclude U.S. flag tankers from the tankship safety examination program. They stated, however, that a tankship safety examination of U.S. flag tankers would be done annually as part of the vessel's midperiod, dry dock, or recertification inspection.

Boarding files for selected U.S. flag tankships showed that deficiencies were often found on repeat boardings of the same vessel over short periods of time. Some examples are shown below.

Vessel	Year built	Gross tonnage (note a)	Date of boardings	Number of tankship safety deficiencies found
A	1945	10,000	3/06/77	b/ 4
			4/21/77	7
			5/20/77	2
B	1943	16,000	1/21/77	2
			4/02/77	15
C	1949	19,000	3/18/77	2
			12/11/77	3

a/ Nearest 1,000 tons.

b/ Six pollution prevention violations were also found.

One district official told us that the reason so many deficiencies were being found on U.S. flag tankships in his area was that these were generally older vessels used in coastwise trade. He said many were built during the second world war and are near the end of their service lives. He categorized them as "basket cases" which are not economically feasible to maintain free of deficiencies, for they need continuous maintenance. This official and officials in another district also stated it could not be said that U.S. flag tankers were better or worse than foreign flag tankers; this depended on the individual vessel.

As is the case with the previously discussed foreign flag vessels, we believe an annual tankship safety examination of U.S. flag tankers is not sufficient to assure that they are safe and will not present a hazard to U.S. ports in the intervening year.

Agency comments and our evaluation

In commenting on our draft report, the Department of Transportation said that the frequency of boarding foreign and U.S. tankships has been reduced. However, the Department disagreed that more frequent boardings and examinations of these tankships are needed. The Department stated that the Coast Guard had established a program in January 1977 to board and examine a maximum number of tankships in a minimum amount of time because of casualties which occurred during the severe winter of 1976-77. The Department also stated that the Coast Guard has determined that boarding and examining each tankship at its initial arrival at U.S. ports and at least annually thereafter will insure that substandard tankships will continue to be denied entry into U.S. ports, which is consistent with the President's initiatives of March 1977 and the Port and Tanker Safety Act of 1978.

We believe that annual tankship boardings will not insure whether deficiencies are identified and that U.S. ports and waterways are safe because certain deficiencies--defective or missing flame screens and wasted and holed vent piping--are recurrent problems, which occur in all types of conditions. The Coast Guard, when boarding tankships at least every 90 days, continually identified such deficiencies.

INEFFECTIVE FOLLOWUP ON IDENTIFIED TANKSHIP SAFETY DEFICIENCIES

Foreign and domestic tankships with safety deficiencies are entering U.S. ports without being reboarded by the Coast Guard to see that tankship safety deficiencies found in other ports have been corrected. Conversely, other tankships are being continually boarded on repeat visits to U.S. ports even though these boardings consistently show the vessel in compliance with tankship safety, navigation safety, and pollution prevention requirements.

Our analysis shows that tankships are arriving and leaving U.S. ports with tankship safety deficiencies that have been outstanding for extended periods and that the Coast Guard is not reboarding these ships to see whether these deficiencies have been corrected. For example, one foreign tankship was boarded for a tankship safety and pollution

prevention examination on March 23, 1977. After the deficiencies were temporarily repaired, the inspector permitted the vessel to discharge cargo, but the vessel owner was required to permanently correct a total of 12 deficiencies within 30 days. The required corrections included repair or replacement of wasted and holed cargo tank vent lines, pressure vacuum valves, patched cargo piping on deck and in the pumproom, cracked cargo pumphousings, a crack in the cargo pumproom bulkhead, inoperable pumproom ventilation system, and damaged explosion-proof light fixtures. Several pollution prevention violations were also found. For example, no direct means existed for removing oily wastewater except by pumping it over the vessel's side, which is a pollution violation. Although the violations required extensive repairs, the vessel subsequently entered three other U.S. ports before it was again boarded on October 15, 1977, for an examination.

Occasionally, the number of vessels in a port will exceed the capability of the Coast Guard to board all vessels. In one district we noted the following problems.

--One team consisting of only three people, was generally responsible for all tanker boardings during the week. On occasion, a second boarding team was formed using trainees. On weekends, the boardings were done by reservists and inspectors who had weekend duty. We were told that sometimes the weekend duty personnel have little or no experience in boarding tankers.

--Boarding teams were often delayed due to difficulty in obtaining information on which vessels were actually at dock and their location.

--The geographical area covered over 200 miles of port facilities and if the team had more than a few waterfront facilities to visit it could not possibly cover them all.

--Transportation to the facilities was not always available.

Additional reasons for vessels not being boarded are discussed in the following section.

At the same time that tankships with known outstanding safety deficiencies have been entering U.S. ports without being boarded, other tankships with very few deficiencies or violations have been boarded repeatedly. For example, a U.S. flag tankship stopped at U.S. west coast ports 64 times during the 8 months from October 1977 to June 1978. The Coast Guard boarded this vessel on 40 of the 64 visits.

The 40 boardings included eight tankship safety, eight navigation safety, and nine pollution prevention examinations, as well as the monitoring of 34 cargo transfers. On only one of these boardings was a deficiency or violation noted. In this case a minor tankship safety deficiency was corrected immediately.

MSIS is not accomplishing its intended purpose

The Presidential initiatives for tanker safety and marine pollution prevention announced on March 17, 1977, included the immediate development of an MSIS that would identify tankers with a history of poor maintenance, accidents, and pollution violations. A long-range MSIS was already being developed by the Coast Guard; however, it was not at the development stage that would satisfy the Presidential mandate. The long-range MSIS is scheduled to be operational by 1982. Meanwhile, the Coast Guard created an interim MSIS that contains limited information on tankers. This system uses the existing Port Safety Reporting System. The interim system provides descriptive data on tank vessels, pollution violations, vessel casualties, and a historical record of boardings, including deficiencies found during tanker examinations.

On receiving advance notice of a vessel's arrival, Coast Guard field units are to consult MSIS to familarize themselves with the vessel's past boarding history and to ascertain whether it has any outstanding deficiencies. Based on this information, a decision is made on whether or not the vessel needs to be boarded and examined.

We found that MSIS is not always properly used; information in the system is being misinterpreted; and the information is not always accurate, complete, or current. MSIS could potentially be a valuable tool to improve the vessel boarding and examination program's effectiveness. To accomplish this, however, the field units must use the system and the results of boardings and examinations must be entered into the system accurately and on a timely basis.

In one district, for 14 examinations which we observed, MSIS was accessed before each boarding. However, the results of four boardings or the fact that they actually did occur were not entered into the system as required. In two other boardings, which were entered into the system, pollution prevention and navigation safety violations were identified. However, the subsequent MSIS entries relating to these boardings do not list the violations.

In one district, we found that information in MSIS was being misinterpreted. The terminology for category of boarding or inspection shown on the MSIS printout varies by location. The inspectors in one operating unit in this district were interpreting the entry "No violation/deficiencies noted, bulk liquid cargo" to mean that a complete tankship examination had been conducted at another location. However, the MSIS user's manual shows that the entry is not to be used for a tankship safety examination. To clarify this confusion, two vessels with this entry on the MSIS printout were boarded in October 1978 at our request to determine what type of boardings had been conducted. The master of each vessel stated that these boardings were walk on/walk off and no documents or letters were issued. District personnel stated that probably many tankers had not been boarded due to this misinterpretation of MSIS data.

On one boarding in another inspection office in this same district, an entry was made in MSIS showing that a violation/deficiency had been found and that a report of violation would follow. Later, we found that a report of violation was never prepared and a violation letter was never issued. The inspector stated he did not have time to prepare the letter and he therefore dropped the case. Also, we found cases in which deficiencies had been corrected but this fact was never recorded in the system.

During our analysis of tankship boarding files and MSIS printouts, we found instances in which examinations had been performed and deficiencies found but the type of examination or deficiency was not recorded in MSIS. Thus, an inspector at another port could not tell what type of deficiency was found unless he contacted the port where it was found.

Agency comments and our evaluation

The Department of Transportation stated that our indictment of the MSIS system is too broad and based on a few examples without recognizing the system's overall effectiveness. The Department added that some of the difficulties inherent in the system design have been addressed and hopefully corrected. It added that the Coast Guard is moving as expeditiously as possible to complete the MSIS system.

Although completion and effective implementation of the system should help eliminate some of the problems we identified, the Coast Guard still needs to take further action in following up on identified tankship safety deficiencies.

MONETARY PENALTIES ARE NOT EFFECTIVELY USED TO DETER VESSEL SAFETY AND POLLUTION PREVENTION VIOLATIONS

The Congress has provided that monetary penalties may be assessed for violations of U.S. navigation safety, pollution prevention, and dangerous/hazardous cargo regulations. The Coast Guard, however, has made minimal use of these penalties to enforce compliance with these provisions. The maximum penalties which may be assessed for violating these regulations are set forth in the U.S. Code and vary in amounts up to $10,000 for each day of violation or $5,000 per individual violation.

During calendar year 1977 one district processed 59 cases for violations of hazardous cargo regulations. Although each violator could have been assessed a penalty of up to $10,000, in only one case was a penalty assessd--for $250. The district also processed 39 cases for violations of navigation safety regulations. Penalties were not assessed against any of these violators, although penalties of up to $10,000 could have been assessed. Four of the cases were closed with no action and the other 35 violators were only issued warnings. In addition, this district processed eight pollution prevention violation cases in which penalties of $10,000 could have been assessed. Five of these violators were issued warnings and three were assessed penalties of $400 (mitigated to $50), $225, and $300 (mitigated to $100), respectively. This same situation was found in the other districts we reviewed.

Coast Guard officials stated that they preferred to obtain compliance with regulations through education rather than by assessing penalties. They said, however, that penalties would be assessed against repeat violators.

Agency comments and our evaluation

In commenting on our draft report, the Department of Transportation agreed that a more aggressive policy should be adopted for assessing penalties for pollution violations. The Department said that vessel safety monetary penalties are minimal and would be assessed against the master of the vessel and that a better method of enforcing compliance is the threat of withholding the inspection certificate.

The Department, however, did not acknowledge that the minimal penalties and withholding of the inspection certificate is only applicable to those domestic vessels having safety deficiencies identified during inspections. Larger

penalties on foreign and domestic vessels can be assessed for violations of regulations for navigation safety, dangerous/hazardous cargo, and pollution prevention. In our opinion, these penalties, which can be up to $10,000 for each day of violation or $5,000 per individual violation, should deter violations if the Coast Guard had a more aggressive policy of assessing such penalties.

LOW PRIORITY GIVEN TO BOARDING UNINSPECTED U.S. COMMERCIAL VESSELS FOR SAFETY EXAMINATIONS

The Coast Guard has recognized that uninspected U.S. commercial vessels, particularly towboats and fishing vessels, are more hazardous than inspected U.S. flag vessels. A May 1978 workload analysis showed there were 56,000 uninspected commercial vessels sailing in U.S. navigable waters. The Coast Guard's operating program plan provides for boarding these vessels for safety and pollution prevention examinations only to the extent that available resources allow. We believe that boarding more uninspected vessels for safety examinations would reduce the potential for accidents and improve their safety record.

Commercial uninspected vessels (excludes recreational or pleasure boats) are vessels which are not inspected or issued a Certificate of Inspection by the Coast Guard. The main categories of commercial uninspected vessels are towboats and commercial fishing vessels. Miscellaneous other vessels, such as various types of barges and dredges, are also included. The uninspected commercial vessels are, however, required to have life preservers, fire extinguishers, adequate ventilation, engine flame arrestors, and navigation lights, and are subject to bridge-to-bridge radio telephone and pollution regulations. In some cases they are also required to be operated by licensed personnel.

The CVS Operating Program Plan mission performance standards call for courtesy examinations once every 3 years of all documented, uninspected commercial vessels to determine whether they meet safety and pollution prevention standards. The standards call for this only to the extent resources are available and specify that this should not take priority over other tasks.

A 1968 Coast Guard study of its Merchant Marine Safety Program stated that persons aboard inspected vessels were, on the average, 8.8 times safer than those aboard uninspected vessels. The report estimated that four times as many accidental deaths occurred on uninspected commercial fishing vessels as on inspected seagoing merchant vessels--12 deaths

compared to 3 deaths per million days of exposure. Although the report stated that some of the data was suspected to contain significant errors, it concluded that the most promising area to pursue from a cost/benefit standpoint was how and to what extent the high loss of life on uninspected vessels, particularly fishing vessels, could be reduced.

The number of uninspected commercial vessels has continued to grow. The 1968 Coast Guard study stated there were 37,000 U.S. uninspected commercial vessels. By 1978 this number had increased to 56,000. The CVS Operating Program Plan (revised through March 1978) stated that the Coast Guard still considered the contents of the 1968 study to be valid and projected that over twice as many accidental deaths occurred on commercial fishing vessels as on oceangoing tank and freight ships (0.87 deaths compared to 0.38 and 0.31 deaths per million hours exposure, respectively). The plan also stated as a program premise that the number of U.S. fishing vessels would continue to grow.

Coast Guard statistics indicate that the safety record of commercial uninspected vessels continues to deteriorate. These statistics show that 49 percent of the 4,011 vessels involved in marine casualties investigated by the Coast Guard in the year ended June 30, 1968, were U.S. uninspected commercial vessels. Of these, 1,522 were fishing vessels and tug/towboats. The statistical summary for the 15 months ended September 30, 1976, showed that of the 7,150 commercial vessels involved in casualties, 64 percent were U.S. uninspected commercial vessels. Of these, 2,907 were fishing vessels and tug/towboats.

In the districts we reviewed, limited attention was being given to boarding uninspected commercial vessels. For example, officials in one district told us that these vessels are not routinely boarded because it was not required by statute and sufficient personnel were not available. In another district, a team of two inspectors was assigned for 1 day a week (24 hours) to randomly board uninspected towing vessels.

Agency comments and our evaluation

In commenting on our draft report, the Department of Transportation agreed that boarding and examining uninspected U.S. commercial vessels should be emphasized, especially during off-peak periods. The Department stated that a triennial dockside safety boarding program is under development. According to the Department, approximately 30 additional billets have been approved to implement this plan. The Department added that the Coast Guard is also (1)

supporting proposed legislation to provide the Coast Guard with the authority to inspect and regulate commercial towing vessels and equipment, as well as require the licensing of officers and certification of crews and (2) considering a proposal for authority to issue vessel safety equipment and occupational safety and health regulations for fishing vessels. These actions are responsive to our proposal.

CONCLUSIONS AND RECOMMENDATIONS

Although Coast Guard vessel boardings and examinations have been generally effective in identifying tankship safety deficiencies and violations of regulations covering pollution prevention, navigation safety, and the handling of hazardous/dangerous cargo, we believe that the effectiveness of these programs could be improved to provide greater assurance that U.S. ports and waterways are safe. Therefore, we recommend that the Secretary of Transportation direct the Commandant of the Coast Guard to:

--Provide additional program direction and uniform criteria to achieve consistency among field units in conducting boardings and examinations.

--Require more frequent boardings and examinations of foreign and U.S. flag tankships.

--Improve followup procedures on tankship safety deficiencies to assure that they are corrected.

--Correct deficiencies in the information systems currently used and expedite development of the long-range MSIS.

--Adopt a more aggressive policy for assessing penalties for violations to induce compliance with safety regulations.

--Emphasize boarding and examining uninspected U.S. commercial vessels, especially during off-peak periods.

CHAPTER 4

NEED TO IMPROVE THE MERCHANT VESSEL PERSONNEL PROGRAM

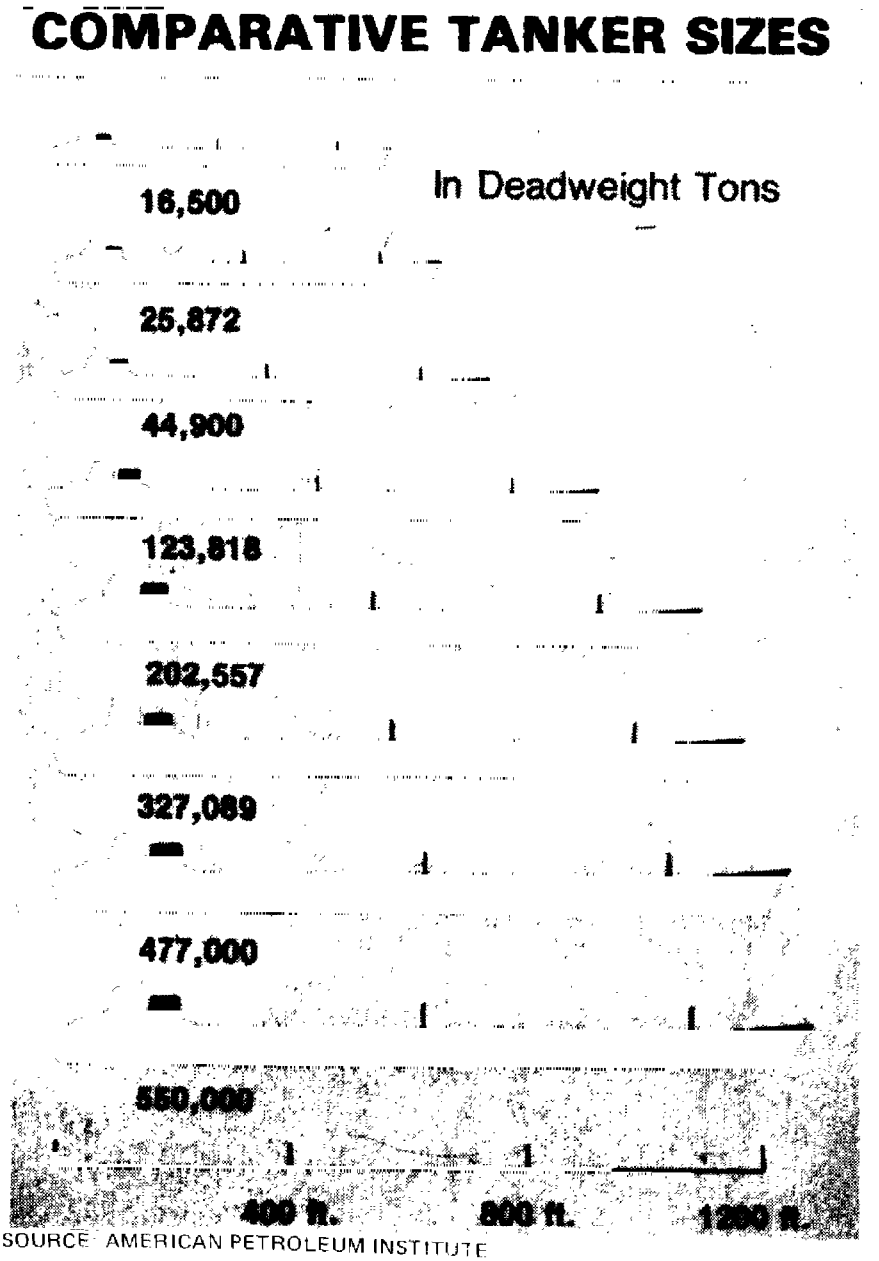
The Coast Guard, through its Merchant Vessel Personnel Program, is responsible for assuring that mariners are physically fit and adequately qualified to safely operate the U.S. merchant marine fleet. This program includes examining, licensing, and certificating maritime personnel and signing on and signing off of seamen on certain voyages. Our review showed that

- --no demonstration of professional competency is required for issuing an initial or renewed officer's license and mariner's certificate,
- --no medical standards or requirement for periodic physical examinations exist for maritime personnel,
- --the Coast Guard has no jurisdiction over pilots operating under authority of a State-issued license, and
- --the shipping commissioner's functions are duplicated by industry and are unnecessary.

The importance of a well-qualified merchant marine is demonstrated by Coast Guard statistics which show that human error or personnel fault is a contributing if not fundamental factor in 80 to 85 percent of all casualties. Between fiscal years 1972 and 1976 the total number of vessels involved in casualties has increased by 74 percent. (See ch. 1.) Many of the vessel casualties resulted from groundings, collisions, fires, and founderings, most of which involve human error.

With the introduction of larger, faster, and more sophisticated vessels, the probability and consequences of casualties have increased dramatically. The largest and most visible vessels in terms of public awareness are the oil supertankers. The tankers of the 1940s were 16,000 deadweight tons. Today, there are tankers that exceed 500,000 deadweight tons. (See illustration on p. 48.) One reason for the anxiety over these supertankers is their clumsiness. Their great size makes them difficult to steer, especially at low speeds in restricted waters. The typical 20,000 horsepower engine for a 100,000-ton tanker can be compared with an engine of one-sixteenth of 1 horsepower for a 15-foot motor-

boat, which would normally be powered by a 10-horsepower or larger motor. Once underway, the supertanker's momentum is such that stopping it is not easy. With engines turning full astern (reverse), it may take 20 minutes and 3-1/2 miles to bring a supertanker to a crash stop from cruising speed. To offset some of this ungainliness, today's modern vessels rely on sophisticated navigation, docking, and collision-avoidance systems. It takes human skill and diligence to handle this kind of equipment; therefore, better training and qualification measures, such as shiphandling simulators, are needed to assure that the people who operate these vessels are competent.



SOURCE: AMERICAN PETROLEUM INSTITUTE

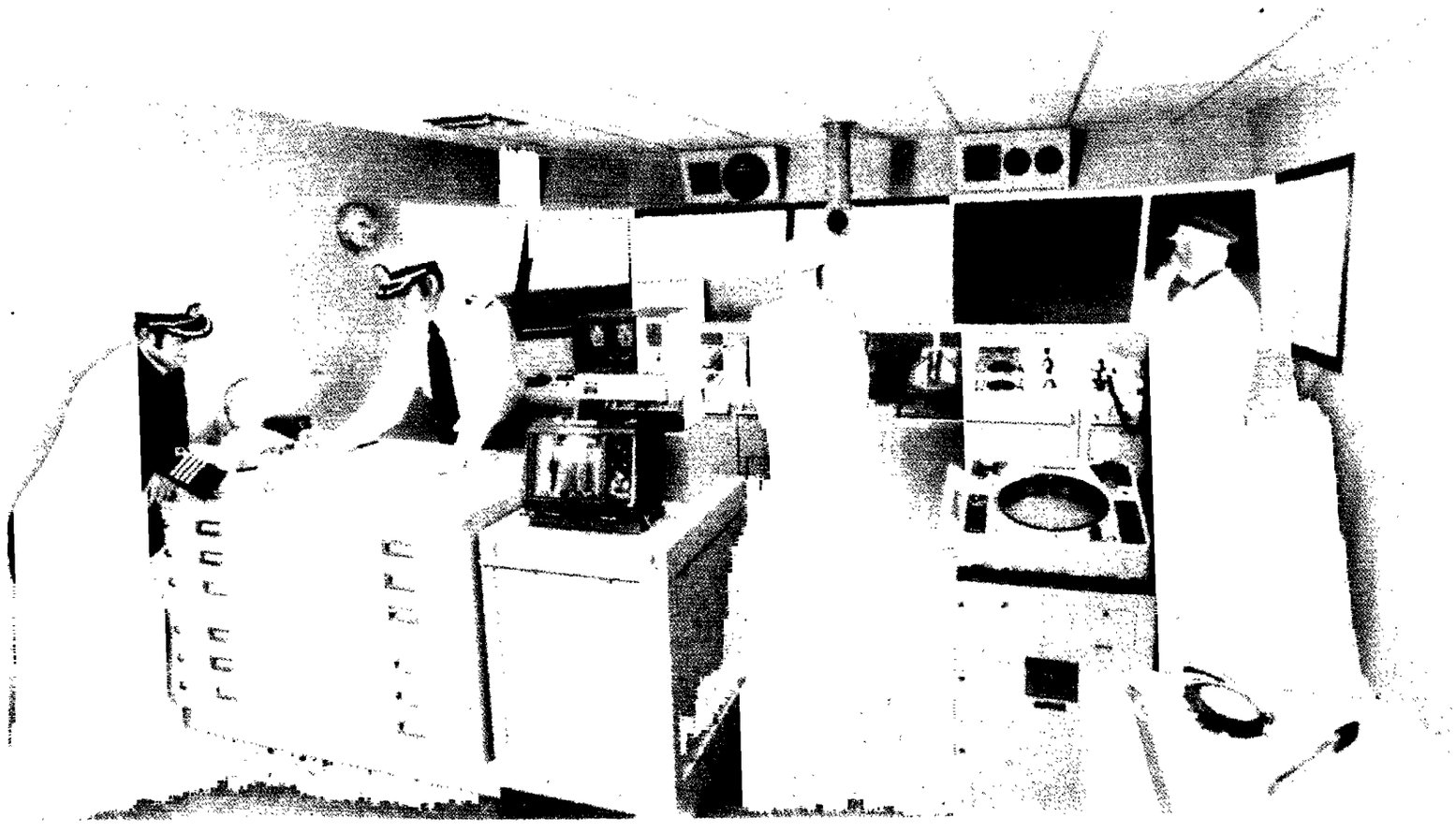
NO DEMONSTRATION OF COMPETENCE IS REQUIRED IN THE LICENSING OF MARITIME PERSONNEL

Marine accidents have steadily increased in numbers, cost, and environmental impact. Investigations of maritime accidents have supported the fact that most accidents (i.e., collisions, rammings, and groundings) have occurred in restricted waterways (harbors and approach waters, including rivers and bays). Statistics show that in fiscal year 1976, 3,136, or 75 percent, of the 4,211 casualties involving commercial vessels occurred in restricted waterways and that human error was the major contributing factor in more than 80 percent of the accidents. Therefore, the competent U.S. mariner is a key factor in assuring safe commercial vessel operations. We believe the Coast Guard's licensing program does not provide assurance that mariners will be proficient or competent because candidates are not required to demonstrate their skill in handling vessels and equipment. We believe a written test and a requirement for experience at sea is not adequate to determine competence.

One means of demonstrating competence is through the use of simulators; several recommendations have been made to require deck officers and pilots to take simulator training as a prerequisite to being licensed. Many industries already use simulators for training, licensing, monitoring procedures and discipline, and testing proficiency. Major simulation facilities have been constructed and operated by companies around the world to train and evaluate personnel in specialized fields. (See picture and drawing on pp. 50 and 51.)

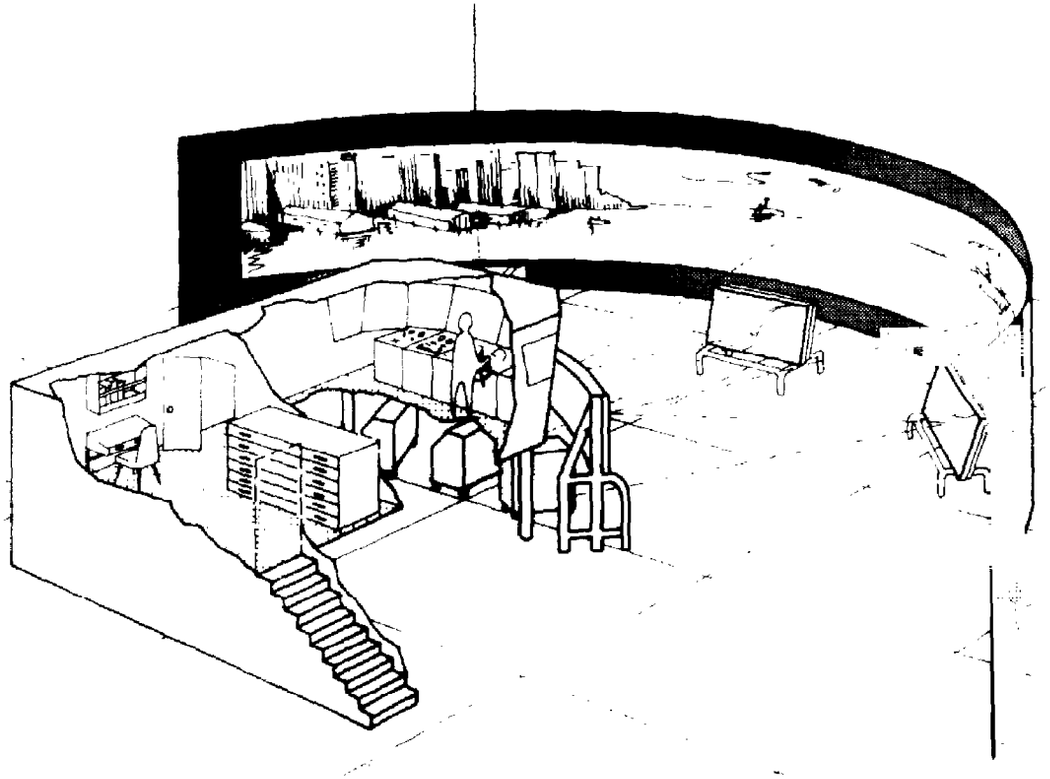
The aviation industry, in which flight control tasks somewhat parallel those of merchant vessel operations, uses the simulator as an integral part of its training and licensing process. Using simulators for training and licensing is largely regulated by the Federal Aviation Administration. To maintain their certification, pilots and copilots receive periodic training and proficiency checks on simulators. Simulators are also used for "upgrading" in position (e.g., from second in command to captain); "transition" training to new aircraft and "differences" (e.g., new variation of same airplane) training programs. The aviation simulators are periodically inspected and certified by the Federal Aviation Administration to ensure their effectiveness in the particular training or qualification role.

The nuclear power generation industry is another extensive user of simulator-based training. Utility managers are presently training and qualifying large numbers of highly skilled reactor operators. Factors relating to safety,



SOURCE: MARINE SAFETY INTERNATIONAL

FROM WITHIN BRIDGE WHEELHOUSE, OFFICERS VIEW LIVE VIDEO PRESENTATION OF SCALE MODEL OF REAL-LIFE HARBOR ON PANORAMIC SCREEN, WHILE INSTRUCTOR IN REAR MONITORS EXERCISE.



SOURCE: MARINE SAFETY INTERNATIONAL

CUTAWAY DRAWING SHOWS MARINE SAFETY SHIPHANDLING SIMULATOR'S BRIDGE CHARTROOM AND WHEELHOUSE AND "GAMING AREA" PROJECTED ON CURVED SCREEN BY THREE PROJECTORS AND MIRROR SYSTEM UNDER BRIDGE.

economics, and training effectiveness influence their decision in using simulators. The power generation industry also uses simulators for requalifying senior reactor operators and for refresher training. Initial qualification of reactor operators, who usually come from the U.S. Navy, may occur through a combination of participatory assignments at operating reactors and/or suitable reactor simulators.

The National Aeronautics and Space Administration and the aerospace industry have relied almost totally on simulation training. Although airborne simulators are used to a large extent in advanced development systems, ground simulation remains the most cost-effective method for basic skill development. To fly prototype aircraft, National Aeronautics and Space Administration pilots are frequently compelled to train and qualify solely through the use of simulation.

Coast Guard headquarters officials stated that more emphasis is being placed on simulator training and a study of a shiphandling simulator is currently being made at Kings Point, New York. These officials added that very few shiphandling simulators exist, making it difficult to mandate simulator training.

A district licensing official stated that using simulators for testing professional competency is definitely better than using written examinations. A licensing official in another district stated that requiring the radar observers test to be given on a simulator would give the Coast Guard better assurance that the applicant is competent.

A union official agreed that mariners should demonstrate competence through the use of a simulator. Computer-based simulators are very useful in shiphandling training. Presently, a radar simulator is being used for training at the union's school. Other union officials stated that union members would support simulator and other forms of periodic training for deck officers, including pilots.

The chairman of a State pilot commission stated that a need definitely existed for more sophisticated pilot training. He agreed that using computerized simulators would be a good addition to training and testing of maritime personnel. The State's proposed pilot training plan calls for simulators or model training for pilots.

A Merchant Marine Academy official stated that shiphandling and radar simulators could supplement the Coast Guard's professional examination. In addition to taking

a multiple-choice examination, mariners should be required to demonstrate their knowledge, and a simulator is one alternative means of doing this.

A Maritime Administration official stated that the Coast Guard is considering amending regulations by providing that a licensed deck officer can only obtain a radar observer's endorsement by attending a Coast Guard approved radar simulator training facility.

An Educational Testing Service officer suggested to the Coast Guard as early as 1969 that it regionalize licensing testing centers and in this way mariners could periodically be tested on simulators.

A Tanker Advisory Center official stated that every mariner should be required to be trained on simulators. There should be a required practical examination given to mariners, and simulators could be used for such an exam.

An American Institute of Merchant Shipping official stated that there is no doubt that mariners should have to demonstrate professional competence on simulators or by some other means.

The director of Marine Safety International stated that two oil companies are training their officers with simulators. He believed that masters and pilots should be trained on simulators, especially in light of ship casualties caused by human error. Presently, only three maritime simulators are available, resulting in expensive training costs. However, when more simulators become available the cost of training mariners will probably decrease. An oil company vice president stated that the Marine Safety International program will help ship's officers with advanced training to supplement ongoing training programs to upgrade its marine officers for the increased protection of the environment, vessels, and crews.

Agency comments and our evaluation

In commenting on our draft report, the Department of Transportation agreed that no practical demonstration of competence is required to obtain a merchant mariner's license. The Department added that actions to establish more stringent regulations and to consider the use of simulators are already being taken. These actions include (1) drafting proposed changes to licensing regulations adopting the mandatory parts of the recent International Convention on Standards of Training, Certification, and

Watchkeeping for Seafarers, 1978, that exceed present licensing requirements, (2) a contract between the Coast Guard and the Maritime Administration for a feasibility study concerning the use of simulators, and (3) plans to issue proposed regulations to require certain deck officers to undergo radar simulator training before issuing a Radar Observer Endorsement. Such action is responsive to our proposal.

LACK OF MEDICAL STANDARDS FOR MARITIME PERSONNEL

The physical fitness of maritime personnel is important to the safe operation of the merchant marine fleet. Due to the strenuous requirements of some positions and because medical attention usually is not immediately available, it is important for mariners to be physically and mentally fit. With the larger and highly automated vessels, the number of crew members has been reduced, thereby making each position vital to the ship's continued safe operation. Also, the average age for operating personnel in the U.S. merchant marine is approaching 50 and the range extends to age 70. During 1976, about 14,370 illnesses and injuries were reported for the approximately 20,800 mariner jobs in the U.S. merchant marine. We believe that these factors point to a need for developing well-defined medical standards for maritime personnel and requiring periodic physical examinations as a requisite for license renewal.

All applicants for an original license are required to pass a physical examination conducted by the Public Health Service (PHS). Also, PHS may examine seamen after an illness to see if they are fit for duty. However, the Coast Guard, in conjunction with PHS, has established only general medical standards for determining personnel's physical fitness for sea duty. The only specific requirement is for color sense and eye acuity. The procedures for a medical examination are left to the individual physician's discretion. Also, the Coast Guard does not require maritime personnel to have a periodic physical examination for license renewal.

Some unions and shipping companies have already established medical standards and requirements for physical examinations before employment and on an annual or other periodic basis. The standards are specific as to conditions or causes for disqualification and rejection.

Although some mariners receive a physical by a union or shipping company doctor, PHS is the usual medical authority on the physical condition of maritime personnel,

even though this is not the legal responsibility of PHS. The Coast Guard, however, retains the final responsibility for (1) deciding if an individual is capable of performing his sea duties and (2) the licensing of mariners. Some union and shipping company officials told us that the determination of whether a mariner is fit or not fit for duty is often influenced by the individual mariner's desires. A union official in one district said that PHS will certify anything the mariner wants. A shipping company official said that PHS reverses 85 percent of the cases for his company where a mariner is found "not fit for duty." Another shipping company official said that PHS will practically ask the mariner whether a "fit" or "not fit" for duty is desired. A union official told us that the PHS examination is a farce and if a mariner wants to be declared fit or unfit for duty he can arrange it. While PHS physicans would not admit that mariners receive the duty status desired, more than one said that the Coast Guard and PHS standards are not adequate.

One PHS chief physician told us that physical examination procedures for mariners have been standardized to conform to other physical examinations given at the hospital. A physician's assistant who performs the examinations told us that since the Coast Guard has not issued comprehensive examination criteria, determining fitness for sea duty is largely judgmental and PHS is reluctant to deprive someone of their livelihood. The Director, Bureau of Medical Services, Health Services Administration, said that he believes the above statements unfairly characterize the PHS staff because these individuals do not distinguish between licensed and unlicensed personnel. Much of PHS workload is concerned with servicing unlicensed seamen who have specific illnesses (cut or missing fingers, muscle problems, etc.).

A PHS physician and a consultant in clinical and industrial audiology told us that no definitive hearing standards exist for mariners. They estimated that 75 percent of all mariners working aboard ships 10 years or more have a substantial hearing loss, especially at the high ranges; that is, ability to understand the spoken word is impaired or destroyed. They felt the hearing loss in most instances is directly attributable to the noise aboard vessels. Another physician told us that he has never found a mariner not fit for duty because of a hearing loss since there are no standards. Both the PHS physician and the consultant stressed that the problem is compounded because neither shipping companies, unions, nor the Coast Guard require the use of hearing protective devices. A senior PHS physician felt

that duty status determinations by unions, shipping companies, and private physicians were reversed in many cases because more complete medical histories are not available to PHS. Thus, mariners may be determined fit for duty even though they have a history of illness or injury.

Unfit mariners found fit for duty

As stated above, the physical fitness of seamen is important to the safe operation of a vessel. If a crew member becomes ill or incapacitated during a voyage, other crew members have to perform his duties until he can be replaced or recovers; often, vessels have to be diverted to the nearest port for a replacement. Not only does this situation jeopardize a vessel's safety, but it is costly to the shipping companies.

In one district eight mariners having a history of injury or illness were examined and found fit for duty by PHS, allowing them to sail and serve on board U.S. merchant vessels. These mariners subsequently shipped on board vessels and within a matter of weeks or months became incapacitated for duty. Two of these individuals had heart bypass surgery before being found fit for duty. One of these mariners, who had bypass surgery in August 1976, had to be flown back to the United States in December 1977 after his ship was diverted to Singapore because of his illness. Six months later, in June 1978, he again had to be flown back to the United States for treatment related to his heart illness after his ship had diverted over 1,000 miles to Honolulu. There are no precise PHS or civilian standards for when an individual can return to duty after such surgery.

We found several cases in another district where union clinics had examined and found mariners not fit for duty and PHS subsequently found them fit for duty. One of these cases involved a chief mate who was rejected for hypertension and extreme severe obesity. A shipping company official said that the man had difficulty descending and climbing ladders aboard ship. Nonetheless, PHS found the man fit for duty. A review of PHS medical records revealed that the man had a long history of obesity problems. There are no standards for when obesity is disabling.

In another case, after an altercation on board a vessel, an assistant engineer was found not fit for duty by PHS because of a mental disorder. He had a history of psychiatric treatment and had twice before undergone psychological evaluation at the Coast Guard's request. On this occasion, after being placed on medication, he was declared fit for

duty with continuing medication. However, the district intervened on the grounds that the PHS Division of Hospitals and Clinics operations manual states that "the evaluee is not fit for duty until restored to a symptom-free state from his or her psychosis for at least one year." One month later PHS reversed its decision and declared him not fit for duty. The Coast Guard then attempted to suspend or revoke his license on the grounds of mental imcompetence, but a Coast Guard medical officer found him fit for duty.

In a similar case, a mariner suffering from a mental condition was determined to be not fit for duty. In the following month, PHS found him fit for duty with medication. The mariner joined a vessel the following month but failed to take his medication on the voyage and subsequently became ill and attempted suicide. The mariner was taken off the vessel and examined by a physician who recommended repatriation. The mariner committed suicide in his hotel room the same night after being taken off the vessel.

The medical director for a local steamship company stated that communication is a major problem among the various medical facilities, including the PHS hospitals, because mariners can obtain different medical opinions until they get the desired diagnosis. The director, who is a doctor, suggested that each mariner be required to carry a health record so a complete medical history will be available at all times. A PHS doctor suggested that mariners be required to surrender their license or document if a medical examination results in a not fit for duty. This would prevent them from going to another PHS hospital to get their duty status reversed.

The medical director is also the vice chairman on a task force for the Seamen's Health Improvement Program. The task force includes representatives of unions, private industry, and Federal agencies. The program is looking at mariners' physical qualifications, care at sea, access to care, and safety aboard ship.

Agency comments and our evaluation

The Department of Transportation, in commenting on our draft report, agreed that a lack of medical standards exists for merchant marine personnel. It said that in November 1978, the Coast Guard started formulating draft proposals to establish basic physical standards and to implement a job-to-individual profile for all physicians to use in examining merchant marine personnel. The Department added

that members of the maritime industry, as well as PHS officials, have reviewed and offered sound criticism and advice on the initial proposals.

The Director, Bureau of Medical Services, Health Services Administration, PHS, also agreed with the need to establish medical standards. He said that the Bureau was meeting with the Coast Guard, the Maritime Administration, and maritime industry, including union officials, to establish medical standards for (1) employment and licensing and (2) related renewals. He also stated that a computerized system is needed to communicate a patient's status between doctors at different locations and that such a system would also assist PHS doctors in reviewing seamen's medical conditions for duty. Such joint efforts are responsive to our proposal.

THE COAST GUARD HAS NO JURISDICTION OVER PILOTS OPERATING UNDER STATE-ISSUED LICENSES

On the basis of a 1976 U.S. District Court decision, the Coast Guard determined that it cannot suspend or revoke the license of pilots operating under the jurisdiction of local, State, or harbor pilot associations as provided in 46 U.S.C. 214, even though the pilots are involved in severe marine casualty incidents resulting from misconduct or incompetence. Accordingly, pilots may be allowed to make repeated mistakes without substantive threat of reprisal or license revocation from the Coast Guard. Current Coast Guard policy states that:

> "* * * in the case of a pilot acting, under the authority of a State commission, no action to suspend or revoke a license is available, but if there is evidence of violation of a statute providing for a monetary penalty, a recommendation should be made for further investigation under civil penalty procedures."

We noted a number of cases, as illustrated by the following examples, where accidents occurred as a result of State pilot negligence with the Coast Guard being unable to take action and no action being taken against the State pilot by the State commission.

--In October 1975, a pilot failed to monitor the actions of assisting tugboats and collided with a wharf causing about $285,000 damage.

--In October 1976, a pilot violated the rules of the road for port-to-port passage when two vessels were meeting head to head, thus causing a collision.

--In May 1975, a pilot was charged with negligence for contributing to the cause of a collision; however, the charge was dismissed because of a June 14, 1976, U.S. District Court decision 1/ that the Coast Guard does not have jurisdiction over State pilots acting solely under the authority of their State pilot commissions. As a result of the decision, the Coast Guard issued a policy statement

> "* * * to follow the 'Dietze' decision not only in the Eastern District of Louisiana but in all cases involving pilots acting solely under the authority of their State pilots commissions."

In December 1977 he again lost control of a vessel and struck a barge, three wharves, and a motor vessel, causing over $900,000 damage.

--On November 22, 1975, a pilot negligently navigated a vessel into a drawbridge causing severe damage ($150,000) to the bridge. The Coast Guard furnished the State board of pilotage commissioners a copy of their report. The commission determined it would take no action against the pilot. This pilot was involved in another incident in April 1977. He improperly maneuvered a vessel from a pier causing extensive damage to the vessel.

--On June 11, 1978, a pilot navigated a vessel into a bridge's support structure rendering the bridge inoperative. The bridge may be replaced at a cost of $100 million to $150 million. The Coast Guard found evidence of negligence on the part of the pilot and headquarters is presently reviewing the case for possible civil penalty actions against the pilot. The State pilot commission has deferred discussion about the incident until they receive the Coast Guard's report.

In some cases, however, action has been taken against pilots by State and harbor commissions. An attorney for the board of harbor commissioners in one port told us that the board had discharged only two pilots over the past 5 years for negligent action. The negligent actions resulted in damage to a wharf and vessel totaling $250,000 and $30,000, respectively.

1/ Dietze v Siler, 414 F. Supp. 1105 (E. D. La. 1976).

The chairman of the pilotage commission in another State told us that no disciplinary action has been taken against any pilot since he became chairman in mid-1977. A review of commission documents disclosed that since 1969, this commission sent ten reprimand letters to State pilots judged to have erred in their job performance and two suspensions were handed down. However, a court rejected one of the suspensions and the other suspension was for 30 days. In another suspension case, a pilot received a 15-day suspension from the commission; however, the pilot declined to accept it and the commission then closed the case with only a strong letter of reprimand.

Another State pilot association official told us that four pilots have been discharged for negligent actions over the past 30 years. The State pilot commission initiated the actions against the pilots which resulted in their discharge.

Concern about the lack of authority over pilots

In August 1978, the Commander of one district expressed concern about the competency of pilots and stated that recent marine casualty investigations have given cause to question the knowledge and competency of pilots in shiphandling. Because of his concern in this area, one operating unit in his district had already formulated questions on shiphandling in narrow channels for inclusion in the first-class pilot examinations.

One operating unit official told us that the Coast Guard needs authority over pilots to achieve uniformity in jurisdiction over all maritime personnel and in taking disciplinary action against licensed personnel.

The American Institute of Merchant Shipping supports Coast Guard authority to investigate incidents involving possible pilot incompetence, misconduct, and the need to take appropriate disciplinary or corrective actions.

Change in law needed

A U.S. District court has interpreted 46 U.S.C. section 211, to mean that the Coast Guard does not have jurisdiction over the licenses of local harbor pilots when they are acting under the authority of the State license or commission.

To rectify this situation, the Coast Guard has proposed that the following language be added to 46 U.S.C. 211:

"Any person authorized by a State to serve as a pilot must also hold a valid pilot's license issued by the United States and while so serving that person is acting under the authority of the Federal license and is subject to suspension and revocation proceedings established pursuant to this title, without regard to any action taken by the State. It is unlawful to employ, or for any person to serve as, a pilot aboard any vessel under this section who is not licensed by the United States for the class of vessel piloted."

Agency comments and our evaluation

In commenting on our draft report, the Department of Transportation agreed that proposed legislation should be submitted giving the Coast Guard jurisdiction over vessel pilots operating with State licenses. The Department said that it has already drafted a legislative proposal granting authority to suspend or revoke Federal licenses, documents, and certificates held by seamen who, in the performance of their duties, commit acts which reveal them unfit or unsuitable to retain a license, document, or certificate. Our proposal will be met when such legislation is introduced and enacted.

THE SHIPPING COMMISSIONER'S FUNCTIONS ARE DUPLICATED BY INDUSTRY AND ARE UNNECESSARY

The shipping commissioner's function was established by law in 1872 to defend the rights of merchant seamen by keeping a register of their names and characters, supervising their signing on and signing off at the end of a voyage, and providing other miscellaneous services.

The laws pertaining to the duties of the shipping commissioner and welfare of seamen have basically not changed since their original enactment. For example, the law still provides that

--the shipping articles specify the type and quantity of provisions to be allowed and served during the voyage; e.g., 3/4 ounce of green berry coffee daily; 1/2 pint of molasses on Sunday, Tuesday, and Thursday; and 1-1/2 pounds of fresh bread daily;

--the shipping commissioner shall ascertain that a boy has voluntarily consented to be bound for apprenticeship to sea service, and that the parents or guardians of such boy have consented to such apprenticeship, and that he has attained the age of 12 years, and

is of sufficient health and strength, and that the master to whom such boy is to be bound is a proper person for the purpose;

--the master of every vessel shall serve lime or lemon juice, and sugar and vinegar, to the crew within ten days after salt provisions mainly have been served out to the crew, and so long afterward as such consumption of salt provisions continues; the lime or lemon juice and sugar daily at the rate of one-half an ounce each per day; and the vinegar weekly, at the rate of one-half a pint per week for each member of the crew;

--every vessel shall be provided with a slop chest containing a complement of clothing for each seamen including boots or shoes, hats or caps, underclothing and outer clothing, oil clothing, and a full supply of tobacco and blankets. Any of the contents of the slop chest shall be sold to the seamen at a profit not exceeding 10 percent of the reasonable wholesale value at the port where the voyage commenced; and

--for continued willful disobedience to lawful command or continued willful neglect of duty at sea, at the master's option, a seaman shall be placed in irons, on bread and water, with full rations every fifth day, until such disobedience shall cease.

As of December 1978, there were a total of 32 shipping commissioners. According to the Coast Guard, the total 1978 annual direct cost for the shipping commissioner function which included salaries, allowances, and support costs, was about $791,300.

Officials from maritime unions, shipping companies, and the Coast Guard, and merchant seamen told us there was no need for shipping commissioners. They told us commissioners' functions were archaic and that they had outlived their usefulness. Also, functions performed by the commissioners, such as attesting to the "signing on and signing off" of the crew, approving allotments, and accepting wages of deceased or deserted seamen could be performed by the vessel's master, labor unions, civil authorities, and/or shipping companies. Additionally, current labor agreements have made it unnecessary for the commissioner to examine or witness the signing of "shipping articles" (legal contract between the master and crew). As one labor union official stated, the original purpose of the commissioner and specifically the

articles was to protect merchant seamen while overseas, but current labor agreements meet or exceed the requirements of the shipping articles.

Agency comments and our evaluation

The Department of Transportation in commenting on our draft report, agreed that the shipping commissioner's function is no longer necessary and stated that proposed legislation to abolish this function will be undertaken. The enactment of such legislation would meet the intent of our proposal.

CONCLUSIONS

The importance of well-trained and competent maritime personnel cannot be overemphasized when discussing the safety of life, property, and the environment in and on waters subject to U.S. jurisdiction. In the current merchant marine of larger, faster, and more sophisticated vessels, increased attention must be given to human skills and capabilities if our ports and waterways are to be kept safe. We believe that the Coast Guard's Merchant Vessel Personnel Program could be improved to more adequately assure that mariners are capable of safely operating the U.S. merchant marine fleet.

RECOMMENDATIONS

We recommend that the Secretary of Transportation direct that the Commandant of the Coast Guard:

--Require as a prerequisite for license issuance or renewal that the mariner demonstrate competence by furnishing verifiable evidence of recent performance in the position applied for, furnish evidence of recent training, or take a practical examination conducted by the Coast Guard to demonstrate competence by using simulators.

--In consultation with PHS and the maritime industry, establish medical standards for determining the physical fitness level necessary for maritime personnel to perform their duty at sea and require a physical examination for all licenses and renewals in accordance with those standards.

--Submit to the Congress proposed legislation to amend the appropriate sections of the U.S. Code, giving the Coast Guard jurisdiction over pilots operating under a State-issued license.

--Submit to the Congress proposed legislation to abolish the shipping commissioner's functions.

CHAPTER 5

OPPORTUNITIES TO ENHANCE INTERNATIONAL MARITIME SAFETY

As discussed in chapter 3, the Coast Guard boards and examines foreign vessels that enter U.S. ports to determine compliance with a number of safety regulations. However, these examinations are limited by international agreement or lack of jurisdiction and, as a result, many vessels are not subject to Coast Guard inspection as are U.S. flag vessels. During a boarding, the Coast Guard will determine if a vessel has a current Certificate of Inspection and if the crew is licensed. The documents which are issued by the nation under whose flag the vessel sails are generally accepted by the Coast Guard as proof that a vessel has met the required international standards. Since over 95 percent of oceanborne foreign cargo entering U.S. ports is carried by foreign flag vessels, improvements in international maritime safety standards, as well as the safety standards of the nations that comprise the world's merchant marine, are of concern to the United States.

Since 1958, one method to help improve international safety standards has been through U.S. participation in the United Nations Inter-Governmental Maritime Consultative Organization (IMCO). IMCO sponsors international conferences to adopt conventions on various maritime related matters, including vessel safety and preventing pollution from ships. Another method to improve international maritime safety has been for the Coast Guard to provide technical assistance and training to foreign countries.

According to the Coast Guard, as of December 1978 the United States had actively participated in developing 15 IMCO-related international agreements and various amendments to these agreements, which pertain to vessel safety and pollution prevention matters. (See app. III.) The United States has not ratified a number of these agreements and amendments.

According to the State Department, the Coast Guard provides the most active participation of any member state of IMCO, which makes the United States one of the most, if not the most, influential member of IMCO. Further, the Department stated that the Coast Guard's IMCO involvement, such as the submission of proposals, has ultimately led to international agreements which increase the safety of life and property at sea and improve the protection of the marine environment, as well as provide a means of technology transfer from the United States to developing countries.

We found that the Coast Guard has not determined in a comprehensive manner how and to what extent its staff resources should be used to assist foreign countries.

STATUS OF INTERNATIONAL AGREEMENTS AND AMENDMENTS

Of the 15 IMCO-related international agreements pertaining to vessel safety and pollution prevention matters, 10 are presently in force internationally. In order for agreements to enter into force internationally, a required number of countries with a specified percentage of the world's merchant shipping tonnage must formally adopt the terms of the convention and submit the acceptance to IMCO. The particulars of entry into force requirements vary depending on the agreement.

Of these 15 agreements, the President has signed 9, signifying their ratification by the United States. We found that of the nine, the amount of time spent from the final agreement date (final act of a conference) until it was ratified ranged from 7 months to 85 months. According to Coast Guard officials, some agreements have taken longer to ratify than others primarily because they contained complex and technical requirements which took time to address. For example, IMCO adopted a new SOLAS in 1974 which is targeted for entry into force internationally in June 1979. This convention, which contains a number of very technical safety requirements for vessels, was submitted to the Senate in mid-1976 for its advice and consent to ratification, was ratified in August 1978, and was deposited with IMCO in September 1978.

Of the agreements that the United States has not yet ratified, we found that two were finalized by IMCO over 9 years ago and one over 7 years ago. The United States is still considering some of the unratified agreements. Examples of these include the 1969 International Convention on Civil Liability for Oil Pollution Damage and the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage. These two conventions were entered into force internationally in 1975 and 1978, respectively.

To modify or add requirements, existing agreements are amended. As of December 1978, there were 15 amendments to the 15 agreements. Of these amendments, 2 were in force internationally and 11 had been ratified by the United States.

According to the Coast Guard, of the agreements that had not been ratified, four had been sent to the Senate for its advice and consent to ratification and two were still with the Department of State. Of the amendments that had not been ratified, the Coast Guard stated that two were sent to the Senate and two were with the Department of State pending further action. (See app. II for a description of the ratification process and a more detailed description of these international agreements.)

Current international and domestic maritime safety efforts

The President's March 1977 initiatives emphasized that oil pollution and vessel safety were global problems requiring global solutions and that international accord was a priority concern.

The President recommended the following measures to achieve U.S. objectives:

--Ratify the 1973 International Convention for Prevention of Pollution from Ships (MARPOL 1973).

--Reform ship construction and equipment standards for all oil tankers over 20,000 deadweight tons, United States and foreign, which call at U.S. ports.

--Improve the international system for inspection and certification of tankers.

--Improve crew standards and training, including raising U.S. licensing and qualifications standards for American crews and upgrading international crew standards.

--Develop an expanded tanker boarding program and MSIS. (See ch. 3.)

--Approve comprehensive oil pollution liability and compensation legislation.

--Improve Federal ability to respond to oil pollution emergencies.

In 1977, the Secretary of Transportation appeared before IMCO to push for a timely international conference on tanker safety and pollution prevention and an earlier date for an international conference on training and certification of seafarers. IMCO accepted both recommendations. The results of these conferences and their implementation by the Coast Guard are described in appendix II.

ADDITIONAL DIRECT ASSISTANCE TO FOREIGN COUNTRIES COULD BENEFIT INTERNATIONAL MARITIME SAFETY

The Coast Guard has responded to requests from foreign countries for training and direct technical assistance. To respond to such requests, however, the Coast Guard has had to take staff away from existing responsibilities. We believe the Coast Guard should determine how and to what extent it can provide training and technical assistance to foreign countries to improve international vessel safety and pollution prevention, without detracting from its own work.

The Coast Guard is authorized to provide personnel and facilities to assist agencies of other governments. Under the Foreign Assistance Act of 1961, it is also authorized to train foreign representatives at formal resident courses or by on-the-job training.

In fiscal year 1978, the Coast Guard's involvement with foreign countries included (1) visiting 44 foreign nations to exchange technical advice and information and attend meetings and conferences, (2) receiving over 250 foreign representatives at Coast Guard facilities, and (3) training 70 foreign representatives from 24 countries at Coast Guard facilities.

The United Nations Development Programme is IMCO's principal means to provide international technical assistance. Its primary objective is to assist developing nations in their efforts to better use their human and natural resources. Activities are financed by the Programme and conducted by various United Nations agencies. These activities include providing technical and professional advice, recruiting international experts, subcontracting for specialized services, and procuring project equipment. IMCO provides technical assistance, which can take from a few

weeks to several years. To facilitate its technical work, IMCO has appointed regional maritime advisors from various member countries. These advisors can be accommodated through United Nations Development Programme financing. According to the Coast Guard, these advisors are responsible for assisting developing nations in such maritime-related matters as training, developing safety standards, vessel inspections, and enforcement. As of December 1978, IMCO had a roster of nearly 600 experts from around the world who could be employed for specific projects.

IMCO has also established the Marine Safety Corps to help developing nations meet international standards for such things as vessel safety and pollution prevention. The Corps is comprised of specialists identified by member nations who, on request, can be made available for technical and training assistance. When a nation desires assistance, it will first contact IMCO, which will then determine the member nation capable of providing the assistance. If the United States is selected, the Department of State, which is the U.S. focal point, will contact the appropriate Federal agency (Coast Guard, Environmental Protection Agency, etc.) capable of providing the assistance. After discussing the matter with the appropriate agency, the Department of State will then inform IMCO of the U.S. agency selected and level of U.S. participation. Funding for such assistance would be provided by the requesting nation or by the United Nations Development Programme. The United States has supported the Marine Safety Corps development and has indicated to IMCO areas of expertise it believes it can provide on request for a limited period of time.

According to Departments of State and Transportation officials, there are a number of areas where the Coast Guard, through IMCO, could offer training and technical assistance directly to other nations, especially developing nations, on a cost reimbursable basis. These include training or technical assistance in such areas as preventing and controlling marine pollution, ship construction, training of maritime personnel, inspecting vessels, and general law enforcement. According to these officials, due to the Coast Guard's apparent staffing shortages, it does not have adequate staff to meet these additional needs and, as a result, individual countries may not receive Coast Guard assistance.

Coast Guard officials told us that although they recognize the value in providing assistance to foreign countries, they do not have the staff to travel to many different countries to assess their needs and determine how the Coast Guard could provide additional assistance. They also told us, however, that in fiscal year 1978 the Commandant traveled to several foreign nations and had received numerous inquiries regarding attending formal Coast Guard training courses in the United States.

No direct funding is provided to the Coast Guard for assisting foreign countries; therefore, technical and training assistance is offered on a reimbursable basis. According to Coast Guard officials, there are primarily three ways the Coast Guard can provide assistance: reimbursements from the Department of State's Agency for International Development, the Department of Defense's Military Assistance Program, or the requesting nation. Assistance provided to foreign military personnel and members of foreign ministries of defense is provided under the Military Assistance Program while other assistance is provided through the Agency for International Development.

We found that the Coast Guard has provided direct training and technical assistance to foreign countries and we believe the Coast Guard should continue to offer such assistance. We believe that by providing such assistance, foreign nations would benefit from the Coast Guard's expertise, especially in matters pertaining to vessel safety and pollution prevention.

CONCLUSIONS

Because most oceangoing merchant vessels operating in U.S. waters are foreign and thus not subject to many U.S. regulations, the international standards and regulations applying to all vessels are extremely important. The maritime standards and regulations of the countries whose flags these vessels fly are also important to the United States. Consequently, the United States should participate in developing international standards and cooperate in their adoption and implementation. The United States would also benefit by assisting foreign countries in developing strong marine safety and pollution prevention regulations and programs.

The Coast Guard, in conjunction with the Department of State, has long participated in international efforts to improve maritime safety and reduce pollution and its consequences. This involvement, primarily through IMCO, has increased during the last year and a half. While the Coast Guard has responded to foreign government requests for technical and training assistance, such assistance has been minimal because of limited staff and the absence of direct funding for such assistance, except by reimbursement through the Agency for International Development, the Military Assistance Program, and/or individual requesting nations.

RECOMMENDATION

Since the Coast Guard has limited staff resources and funding for helping other countries develop strong maritime safety and pollution prevention programs, we recommend that the Secretary of Transportation direct the Commandant of the Coast Guard to determine the staff resources it needs to provide foreign assistance to improve commercial vessel safety and to what extent this assistance should be provided on a planned basis. We believe that this long term planning is important, whether the assistance is to be provided on a multilateral basis through IMCO and the United Nations Development Programme or bilaterally through the United States Agency for International Development Program.

AGENCY COMMENTS AND OUR EVALUATION

In commenting on our report, the Department of Transportation agreed that additional direct assistance to foreign countries is needed. However, the Department did not agree with our recommendation because it believed that (1) the ability to determine staff resources needed to provide foreign assistance or to determine the extent this assistance should be provided on a planned basis is extremely difficult when such direct assistance is provided on an "as requested," cost reimbursable basis, (2) under existing resource restraints, even if new resources were made available, the skill levels required will need a lengthy time frame for development, and (3) if resources were defined, the Coast Guard would not be able to shift its existing resources to meet the need.

We recognize that planning on an as requested basis is difficult, but it is not impossible. The Coast Guard can use past experience as a guide to projecting possible requests for assistance and related staffing needs. Also, any additional staff, either though transfers or new positions,

would have to receive sufficient training which would result in such staff not being immediately available. However, as trained staff becomes available, additional assistance to foreign countries could be provided. We believe that because such assistance has been minimal and for reasons cited by the Department making it difficult to meet additional assistance needs of foreign nations, it is even more important that the Coast Guard comprehensively plan on a long term basis how and to what extent it can provide additional needed foreign assistance.

The State Department in commenting on our draft report (see app. V), believed that while the working relationship in IMCO between it and the Coast Guard is excellent and the Coast Guard has never failed to consider any request by the State Department for foreign assistance, the Coast Guard's ability to provide more than a short consultative visit or training literature is even more limited than we have indicated. We concur with the State Department's position.

Because of the increased emphasis on the need to address vessel safety and pollution problems on a global basis and the potential the Coast Guard has for offering individual foreign nations its expertise in maritime-related matters, we believe that it is essential that the Coast Guard determine the staff resources it needs to provide additional foreign assistance and to what extent this assistance should be provided on a planned basis.

TYPES OF VESSEL INSPECTIONS AND EXAMINATIONS CONDUCTED BY THE COAST GUARD

VESSEL INSPECTIONS

Standards for construction, operation, and maintenance of U.S. flag vessels are prescribed in title 46, chapter I of the Code of Federal Regulations. Subchapters prescribe rules and regulations by vessel type as follows:

Subchapter D - Tank vessels
Subchapter H - Passenger vessels
Subchapter I - Cargo and miscellaneous vessels
Subchapter R - Nautical schools
Subchapter T - Small passenger vessels
Subchapter U - Oceanographic vessels
Subchapter N - Dangerous cargoes
Subchapter O - Certain bulk dangerous cargoes

Three other subchapters prescribe rules and regulations for marine systems and equipment as follows:

Subchapter F - Marine engineering
Subchapter J - Electrical engineering
Subchapter Q - Specifications

To be certified, a U.S. flag vessel must meet the requirements prescribed in these subchapters. To determine whether vessels meet these standards, the Coast Guard inspects them during construction and periodically thereafter during their operating life.

Before construction of a new vessel begins, plans must be submitted to the Coast Guard for review and approval in accordance with standards prescribed in the Code of Federal Regulations. Various types of equipment, such as pressurized containers, ship's boilers, and firefighting and lifesaving equipment are also subject to Coast Guard approval. The Coast Guard also reviews and approves plans for major repairs and alterations during the vessel's life. The specific types of vessel inspections discussed in this report are described below.

Inspections during construction

Vessels are inspected while under construction at a shipbuilder's yard. Certain items of machinery and equipment are inspected at the place of manufacture before installation in the vessel. As a vessel is being constructed,

Coast Guard marine inspectors conduct tests and inspections. When the vessel has been completed, the Coast Guard issues the initial Certificate of Inspection to the vessel owner.

Inspections for recertification

Certificates of Inspection are issued for a definite time period--1 year for passenger vessels; 2 years for cargo and miscellaneous vessels, tankships, and tank barges; and 3 years for small passenger vessels. Vessels which are idle for extended periods each year, such as Great Lakes vessels, receive a 1-year certificate.

On all except small vessels and barges, inspections for recertification are conducted by two inspectors working as a team. One inspector, the engineering or boiler inspector, covers those items generally within the purview of the shipboard engineer. The engineering inspector examines the vessel's propulsion machinery; boilers; auxiliary machinery, such as bilge and ballast systems, lubrication systems, and steering machinery; electrical systems including generators, switchboards, and control systems; watertight integrity and hull structure; and fire and personnel protection systems. The deck or hull inspector covers the items generally under the cognizance of the shipboard deck officers. The deck inspector examines lifesaving and fire protection equipment; ventilation systems; navigation equipment, such as steering and compasses; anchoring and mooring equipment; hull structure and arrangement; and on tankships, special equipment for safe handling of combustible liquids. The inspector may determine the inspection's scope by regulating the detail in which each system is examined. Older vessels and vessels showing a lack of proper maintenance normally receive a more detailed examination than newer and well-maintained vessels.

Midperiod inspections

Midperiod inspections cover the same items as inspections for recertification, but with much less detail. On typical seagoing vessels, midperiod inspections take about one-third the time required for an inspection for recertification. Large passsenger vessels receive a midperiod inspection about every 3 months; small passenger vessels every year; and tank, cargo, and miscellaneous vessels every year. Great Lakes vessels are inspected midway through the operating season.

Drydock inspections

Vessels are required to be drydocked at intervals of from 1 to 10 years, depending on the vessel's age, trade, and route. Except for small passenger vessels, each time a vessel is drydocked the owner or master is required to notify the Coast Guard. In order for the drydocking to meet regulatory requirements, marine inspectors must examine the vessel.

During the drydock inspection, the vessel's hull is examined for deterioration and repairs are made if necessary. The inspectors examine all of the vessel's internal and external structural members, including gaging of thickness where considered necessary; welds, riveting, fastening, structural modifications, and previous repairs; openings in the hull, sea chest, and sea valves; and the tail shaft, propellers, and rudder.

Inspection of major repairs and alterations

The Coast Guard must inspect major repairs of damage received in an accident or of equipment that has failed. Plans for major alterations to a vessel must be reviewed and approved by the Coast Guard like plans for new construction. Inspections are made to insure that the repair or alteration has been made in accordance with the approved plans, that the workmanship is satisfactory from a safety viewpoint, and that the vessel continues to meet the regulations' requirements.

VESSEL BOARDINGS AND EXAMINATIONS

In addition to inspecting U.S. flag vessels, the Coast Guard also boards vessels, both U.S. and foreign, to examine them for compliance with U.S. laws and regulations and with provisions of international agreements. Foreign tankships are examined on entry to U.S. waters under the authority of SOLAS 1960 to determine their compliance with international requirements for safety and load lines certificates, the Officer Competency Convention, and U.S. tankship and navigation safety and pollution prevention standards. Foreign vessels carrying passengers from U.S. ports are also examined under the control provisions of SOLAS 1960.

The specific types of boardings and examinations reviewed and discussed in this report are the tankship safety, navigation safety, pollution prevention, bulk liquid cargo transfer monitoring, dangerous cargo, Letter of Compliance, and uninspected vessel safety examinations.

Regulations dealing with tank vessel safety, dangerous cargo, hazardous materials, and pollution prevention appear in titles 33, 46, and 49, of the Code of Federal Regulations. Title 33, chapter I, subchapter O prescribes regulations for pollution prevention, including vessel design and operation and oil transfer operations. Subchapter P prescribes regulations for ports and waterways safety, including navigation safety regulations. Title 46, chapter 1, subchapter D prescribes rules and regulations for tank vessels, including the tankship safety examinations. Subchapters N and O prescribe regulations for dangerous cargoes. Subchapter O also prescribes regulations for Letter of Compliance examinations of foreign flag vessels carrying certain bulk liquid cargoes involving potential unusual risks to life and property in U.S. ports. Title 49, chapter 1, subchapter C prescribes regulations for the transportation of hazardous materials. Title 46, subchapter C prescribes rules and regulations for U.S. flag commercial uninspected vessels.

Tankship safety examinations

The tankship safety program includes a general examination of the vessel's weather decks, pumproom and piping systems, ventilation systems, fire protection and lifesaving equipment, and cargo handling, ballasting, and bunkering procedures and practices. Its purpose is to assure safe cargo handling conditions and procedures and to eliminate dangerous cargo vapor emissions and possible sources of ignition of these vapors.

Pollution prevention examination

A pollution prevention examination includes a general observation of the vessel's oil transfer procedures, cargo transfer emergency shut-down equipment, communication system between vessel and shore facility, cargo containment system, and ballast discharge systems.

Navigation safety examination

A navigation safety examination includes a review of the ship's log to ascertain that the vessel's steering gear and propulsion system controls were tested before entering U.S. waters. A visual observation is made to ascertain (1)

the existence of current charts and other marine publications and (2) that a maneuvering information fact sheet is prominently displayed in the wheelhouse. The examination also includes a check of critical navigation equipment, such as radars and compasses, to determine that they are operable.

Cargo transfer monitoring

The Coast Guard monitors transfer of bulk oil, both cargo and bunker fuel, from tank vessels (barges as well as ships). The inspectors observe one or more critical aspects of the operation, such as the hookup, topping off, or disconnect. The cargo transfer monitoring may be done in conjunction with the pollution prevention examination.

Dangerous cargo examinations

A dangerous cargo examination includes reviewing the ship's manifest to determine the presence and proper identification of dangerous cargo. It also includes examining the ship's stowage plan for compliance with safe stowage requirements. Finally, it could include examining the cargo itself for proper labeling and the stowage of the cargo on the vessel.

Letter of Compliance examinations

Foreign vessels carrying bulk dangerous cargoes involving potential unusual risks to U.S. ports are required to have a Coast Guard Letter of Compliance. The Coast Guard first reviews and approves the vessel's plans and examines the vessel on its first entry to a U.S. port to insure that it has been built in accordance with these plans. The Letter of Compliance is issued for a period of 2 years. All foreign tankships carrying liquefied gas are to be boarded and examined on each entry to a U.S. port.

Uninspected U.S. commercial vessel safety examinations

Uninspected U.S. commercial vessels may be boarded and examined to ascertain compliance with cetain minimal fire-fighting, lifesaving, navigation, and pollution prevention equipment regulations. This is a courtesy examination and is voluntary on the part of the vessel owner. The Coast Guard's goal is to board each uninspected vessel once every 3 years.

DESCRIPTION OF INTERNATIONAL CONVENTIONS PERTAINING TO MARINE SAFETY AND POLLUTION PREVENTION

During a conference held by IMCO, member nations negotiate on the specifics of proposed requirements to be ultimately contained in a convention, agreement, or treaty. Generally, for such an agreement to enter into force internationally it must be accepted formally by individual governments through instruments of acceptance, approval, or accession; a process which differs in each country. Ordinarily, international maritime treaties require that a certain number of countries with a specified percentage of the world's merchant shipping tonnage become parties to the convention before it can enter into force. Depending on the agreement's complexity, the conditions to bring a convention into force may vary. For example, SOLAS 1974 requires that 25 countries (States) representing not less than 50 percent of the world's gross merchant shipping tonnage become parties to it. The 1972 Convention on International Regulations for Preventing Collisions at Sea required 15 countries with over 65 percent of the world's merchant shipping. Agreements which affect only a few countries or are less complex, however, have less stringent requirements for entry into force. For example, the 1971 IMCO Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material came into force 90 days after 5 countries became parties to it.

IMCO forwards a certified true copy of the convention, adopted by a conference, to the Department of State. When the Department of State and the U.S. delegation agree that the text is accurate, it is signed by the United States subject to ratification. If there are discrepancies, they are reconciled by appropriate discussions between the U.S. representatives and IMCO.

The Secretary of State transmits the convention to the President who then transmits it to the Senate for its advice, and consent as to future ratification. The final convention, along with any accompanying documents, is referred to the Senate Committee on Foreign Relations. The committee holds hearings where interested witnesses and Federal officials testify on the convention. The committee may require draft legislation and implementing regulations which provide

details on how the responsible U.S. agency intends to implement the convention. The Department of State and the Coast Guard are normally witnesses at the hearings to answer questions and offer testimony.

The committee normally will then make a recommendation to ratify the convention. The full Senate must then vote and by a two-thirds margin, give its advice and consent. The original convention is then transmitted back to the Department of State which prepares a letter of ratification for the President's signature. Once signed, it is sent back to the Department of State which transmits it to IMCO.

For the United States to implement international agreements, legislative and regulatory actions are normally necessary. If existing statutory authority and regulations already address or exceed new international requirements, however, no further U.S. action is required. The United States must still ratify the agreement if it wishes to be a party and enforce the requirement for foreign ships in U.S. waters. Coast Guard officials told us that domestic regulatory requirements normally exceed international agreement requirements, which are generally considered minimums to be followed by each country.

As illustrated by Coast Guard action implementing the President's March 1977 tankship safety initiatives, the United States may implement international agreements achieved through IMCO, even though it has not ratified such agreements.

SOLAS 1960 and 1974

SOLAS 1960 was adopted in 1960, ratified by the United States in 1962, and entered into force internationally in 1965. The convention spells out safety requirements for design, construction, and operation of passenger and cargo ships. The convention requires the survey of ships and issuance of certificates that the vessel meets convention requirements. It sets out vessel safety standards covering such items as subdivision into watertight compartments; damage stability; machinery and electrical installations; fire protection, detection, and extinction; lifesaving appliances by type, equipment, and specifications; telecommunications by telephone and radio; navigation safety; and grain storage and securing. It also includes general

requirements for vessel manning; carriage of dangerous goods, including packing, classifying, marking, and storing dangerous substances; and safety requirements for nuclear ships.

A number of technical amendments to SOLAS 1960 have been adopted by IMCO but have not yet received the necessary acceptance by two-thirds of the contracting governments. The amendments include new fire safety measures for passenger vessels, new requirements for grain carriage, new requirements for lifesaving appliances, and new safety measures for tankers. The United States has accepted all of these amendments and, in some cases, is applying them to foreign ships as well as United States ships.

SOLAS 1974 was adopted by an IMCO conference in 1974 and ratified by the United States in August 1978. This convention is not yet in force internationally, but it is projected that a sufficient number of countries will ratify the convention so that it will come into force in 1980. This convention amends and will supersede SOLAS 1960 once it enters into force.

The 1974 convention also includes all of the amendments to SOLAS 1960; i.e., requirements for watertight integrity and bilge pumping for passenger ships and additional requirements for lifesaving appliances and bulk grain carriage, which includes an approved loading plan that must be on board a ship in a loading port. SOLAS 1974 also provides an improved and accelerated amendment procedure.

As of December 1978, 17 countries have ratified this Convention. At the International Conference on Tanker Safety and Pollution Prevention held in February 1978, a protocol amending SOLAS 1974 was adopted which will enter into force separately from SOLAS 1974. It incorporates several important new measures which include requirements for tanker inert gas systems, dual radar, emergency steering and improved inspection, and certification procedures. The SOLAS 1978 protocal was submitted to the Senate for its advice and consent to ratification in January 1979.

INTERNATIONAL REGULATIONS FOR THE PREVENTION OF COLLISIONS AT SEA, 1972

The 1972 International Regulations for the Prevention of Collisions at Sea were adopted in 1972, ratified by the United States in 1975, and entered into force internationally in 1977. These regulations replace earlier 1960 international regulations containing provisions to avoid collisions at sea, including requirements for steering and routing, navigational

lights, sound and light signals, and a list of international distress signals.

INTERNATIONAL CONVENTION ON LOAD LINES, 1966

The 1966 International Convention on Load Lines was adopted in 1966, ratified by the United States in 1966, and entered into force internationally in 1968. This convention replaces the prior 1930 Load Lines Convention and contains specific requirements for assigning vessel load lines (limiting draught marks) to prevent cargo overloading.

INTERNATIONAL CONVENTION ON TONNAGE MEASUREMENT OF SHIPS, 1969

The 1969 International Convention on Tonnage Measurement of Ships, adopted in 1969, has not been ratified by the United States or entered into force internationally. It provides for derivation formulas for gross tonnage and net tonnage of ships and provides for a unified system of tonnage measurement and simplifying tonnage calculations.

INTERNATIONAL CONVENTION ON PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER, 1972

The 1972 International Convention on Prevention of Marine Pollution by Dumping of Wastes and Other Matter (commonly referred to as the London Dumping Convention) was adopted in 1972, ratified by the United States in 1973, and placed into force internationally in 1975. It prohibits the dumping of certain hazardous materials and the deliberate disposal of wastes or other matter from vessels, aircraft, platforms, or other manmade structures.

INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION OF THE SEA BY OIL, 1954 (including amendments)

The 1954 International Convention for the Prevention of Pollution of the Sea by Oil entered into force internationally in 1958 and was ratified by the United States in 1961. It prohibits the deliberate discharge of oil or oily mixtures from vessels, except tankers under 150 gross tons and other ships under 500 gross tons, in areas called "prohibited zones," which generally extend at least 50 miles from land areas. Countries signatory to the convention are to promote the provision of reception facilities for oil residues and oily mixture without causing unnecessary vessel delays. The

convention specifies that ships using oil fuel and every tanker shall be provided with a book where oil transfer and ballasting operations are recorded, including data on accidental and exceptional discharges and escapes. This book, which is to be on board a vessel, is subject to inspection by member nations. Any violation of the convention will be an offense punishable under each country's law.

The convention was amended in 1962, in 1969, and twice in 1971. The 1962 and 1969 amendments entered into force in May 1967 and January 1978, respectively. Basically, the amendments included more stringent restrictions on oil discharges, greater protection of the Great Barrier Reef, and introduced a limitation on the size of cargo tanks of all tankships to limit the outflow of oil due to collision or grounding.

MARPOL 1973 AND ITS RELATED 1978 PROTOCOL

MARPOL 1973 was adopted by an IMCO conference held in November 1973. It has not yet been ratified by the United States and is not in force internationally. Upon entry into force, this convention will replace the 1954 Marine Pollution Prevention Convention and its amendments.

The convention requires strict regulations for carrying various liquid substances in bulk, including crude petroleum, refined petroleum products, and certain other chemicals. All oil discharges are prohibited within 50 nautical miles of the nearest land. Sludge and oily wastes must be discharged into reception facilities to be provided at ports. All tankers will be required to be fitted with equipment which will make compliance feasible. All new tankers of 70,000 deadweight tons or over will be required to have segregated ballast. All tankers must have slop tanks, oil discharge monitoring and control systems, and oily water separating equipment.

In addition to the specific technical requirements of the convention, several legal mechanisms are established to achieve more effective implementation. All parties to the convention will be required to apply the regulations to all vessels using their ports, including those of nonparty nations.

The technical requirements of annex 1 of the convention have been promulgated as regulations in the United States. These regulations affect both United States and foreign flag tankships. MARPOL 1973, together with implementing legislation, was submitted to the Senate for its advice and consent to ratification in 1977. As a result of the February 1978 Conference on Tanker Safety and Pollution Prevention, which modified and added to MARPOL 1973 provisions, it has been necessary to withdraw this submission.

At the February 17, 1978, International Conference on Tanker Safety and Pollution Prevention, a protocol was adopted which requires that any ship to which the protocol applies shall comply with the provisions of the 1973 Marine Pollution Convention. The protocol contains, inter alia, additional requirements for specified new crude carriers to be fitted with protectively located segregated ballast tanks, crude oil washing systems and inert gas systems, and that specified existing crude carriers are to be fitted with segregated ballast tanks or crude oil washing systems, or may operate with dedicated clean ballast tanks for a limited time period. The MARPOL Protocol 1978 was submitted to the Senate for its advice and consent to ratification in January 1979.

INTERNATIONAL CONVENTION FOR SAFE CONTAINERS, 1972

The International Convention for Safe Containers was adopted in 1972, ratified by the United States in 1976, and placed into force internationally in October 1977. It established safety standards for the construction of containers used in all modes of transportation, except those constructed for use exclusively in air transport. This convention has two broad goals: (1) maintain a high level of safety of life in the transport and handling of containers and (2) facilitate the international transport of containers by providing uniform international safety regulations.

INTERNATIONAL CONVENTION ON CIVIL LIABILITY FOR OIL POLLUTION DAMAGE, 1969

The International Convention on Civil Liability for Oil Pollution Damage was adopted in 1969 and placed into force internationally in June 1975. The United States has not yet ratified the convention.

The purpose of this convention is to ensure that adequate compensation is available to persons who suffer oil pollution

damage caused by the escape or discharge of oil from ships. It places liability for such damage on a ship's owner and requires ships covered by it to maintain insurance or other financial security in sums equivalent to the owner's total liability for one accident. The convention applies to all seagoing vessels actually carrying oil in bulk as cargo, but only ships carrying more than 2,000 tons of oil are required to maintain liability insurance.

INTERNATIONAL CONVENTION ON THE ESTABLISHMENT OF AN INTERNATIONAL FUND FOR COMPENSATION FOR OIL POLLUTION DAMAGE, 1971 (FUND CONVENTION)

The fund convention was adopted in 1971 and placed into force internationally in October 1978. The United States has not yet ratified the convention.

The convention established a fund to compensate victims of oil pollution damage if those victims have been unable to obtain full and adequate compensation for damages under the terms of the 1969 Civil Liability Convention. The fund's obligations to pay compensation is limited to pollution damage, including assistance (personnel, material, etc.) to countries taking action against pollution.

INTERNATIONAL CONFERENCE ON TANKER SAFETY AND POLLUTION PREVENTION

In February 1978 IMCO sponsored an International Conference on Tanker Safety and Pollution Prevention which was held in London, England. As a result of this conference, new requirements were adopted as protocols (proposed agreements) to MARPOL 1973 and to SOLAS 1974.

Generally, the MARPOL 1973 protocol adopted additional requirements for the construction of new tankers and the modification of existing tankers, including segregated ballast tanks, crude oil washing systems, or clean ballast tanks. The SOLAS 1974 protocol adopted additional requirements, which included improved steering gear systems and procedures, collision avoidance aids, two radars, inert gas systems, and port-State inspections. The conference also adopted a number of resolutions concerned with controlling discharges from ships, steering gear standards, ship navigation equipment, and developing international standards for other technical requirements (i.e., clean ballast tanks and inert gas systems).

The U.S. proposals to IMCO during the conference in February 1978 were consistent with proposed U.S. regulations published earlier in May 1977 to comply with the Presidential initiatives. These regulations, which are applicable to tank vessels over 20,000 deadweight tons, have focused on improvements in ship construction and equipment standards. Such requirements included double bottoms, segregated ballast tanks, inert gas systems, improved steering systems, and dual radar for vessels. These proposed requirements, which were presented by the President in March 1977, provided the basis for the conference. According to Coast Guard officials, IMCO generally accepted these requirements with the exception of double bottoms. According to these officials, member nations believed such a requirement would cause safety and opertional problems and would not be cost effective. These and previous regulations since MARPOL 1973 were aimed at reducing operational and accidental pollution from ships and improving vessel safety.

Although the United States has not ratified MARPOL 1973, a Coast Guard official told us that the United States has fully implemented the convention's annex I requirements through Coast Guard regulations under authority of the Tank Vessel Act, as amended.

In October 1975, the Coast Guard published final regulations requiring segregated ballast tanks for new U.S. tank vessels 70,000 deadweight tons or greater in the domestic trade and operational oil discharge standards for new and existing tank vessels.

In January 1976, the Coast Guard issued final regulations requiring defensive placement of segregated ballast tanks on new and existing vessels over 70,000 deadweight tons engaged in domestic trade.

In December 1976, the Coast Guard again issued final regulations which (1) extended the application of protective locations of segregated ballast tanks to new U.S. flag tank vessels of 70,000 deadweight tons and over operating in foreign trade and new foreign flag vessels of 70,000 deadweight tons and over operating in U.S. waters, (2) established operational discharge standards to all U.S. vessels and foreign tank vessels of 70,000 deadweight tons or greater operating in U.S. waters, and (3) extended the requirement for defensive placement of segregated ballast tanks to new U.S. vessels and foreign flag tank vessels operating in U.S. waters.

In January 1977, the Coast Guard issued final regulations pertaining to navigation safety. These regulations included requirements for navigation procedures, minimum navigation equipment (magnetic compass, gyrocompass, etc.), and acceptable performance levels. These requirements apply to all vessels, both United States and foreign, of 1,600 gross tons or greater operating in U.S. waters.

To implement the conference agreements, the Coast Guard plans to withdraw the May 1977 proposed regulations and issue final regulations in June 1979 to incorporate requirements for a crude oil washing system, inert gas system, and improved steering. Further, in July 1978 the Coast Guard issued final regulations to incorporate conference radar requirements. The Coast Guard is currently reviewing its internal directives and guidelines applicable to U.S. vessel inspection and certification to insure that such requirements either equal or exceed conference requirements.

INTERNATIONAL CONFERENCE ON TRAINING AND CERTIFICATION OF SEAFARERS

From June 14, 1978, through July 7, 1978, the International Conference on Training and Certification of Seafarers was held in London, England. The conference resulted in a new agreement--the 1978 International Convention and Standards of Training, Certification, and Watchkeeping of Seafarers. According to the Coast Guard, based on the official assumption that over 80 percent of maritime accidents are caused by human error, the improved convention training standards, when implemented, should better enable personnel on board ships to avoid maritime casualties.

The convention's principal provisions include issuing and controlling (1) seafarers' qualification certificates, standards for certificating deck and engineer officers, and issuing documents to unlicensed mariners, (2) requirements for sea experience, (3) training, (4) professional examination and physical fitness, and (5) requirements for deck officers, engineers, radio officers, and unlicensed mariners in the engineering department.

The conference also adopted 23 resolutions (formal recommendations) which reinforce the convention and contain additional training requirements. The convention is to enter into force when 25 nations with combined merchant

fleets constituting 50 percent of the gross tonnage of the world's merchant shipping formally accept it.

The Coast Guard is presently reviewing U.S. licensing requirements to determine specific areas where they need to be amended to conform to the convention and the Port and Tanker Safety Act of 1978. The Coast Guard and the Maritime Administration are jointly reviewing existing domestic training requirements in order to implement the convention's specific training requirements. According to Coast Guard officials, changes to U.S. licensing requirements as a result of the convention will include additional training for all license grades, increased sea experience requirements for certain licenses, increased physical requirements for mariners renewing their license every 5 years, and raised license grades.

According to Coast Guard officials, IMCO plans to sponsor a meeting in July 1979 to address the issue of vessel manning. During this meeting, the United States, along with other members nations, will attempt to develop guidelines for international manning standards. At the present time, IMCO has not addressed manning in any comprehensive manner. This meeting will attempt to determine minimum levels of mariners onboard merchant vessels.

STATUS OF INTERNATIONAL CONVENTIONS PERTAINING TO MARINE SAFETY AND POLLUTION PREVENTION

Convention/Amendments	Date of final agreement	Date signed by President (Date of U.S. ratification)	Date in force for U.S.	Year in force internationally
1. International Convention for the Prevention of Pollution of Sea by Oil, 1954	5/12/54	5/29/61	12/08/61	7/26/58
Amendments:				
a. 1962 (re-write), except Article XIV	4/01/62	9/09/66	5/18/67	5/18/67
Article XIV			6/28/67	6/28/67
b. 1969 (prohibited zones, eliminate discharges)	10/21/69	10/13/71	1/20/78	1/20/78
c. 1971 (tanker tank size)	10/15/71	(a)	Not in force	Not in force
d. 1971 (Great Barrier Reef)	10/12/71	(a)	Not in force	Not in force
2. International Convention for Safety of Life at Sea, 1960	6/17/60	5/11/62	5/26/65	5/26/65
Amendments:				
a. 1966 (fire safety)	11/30/66	3/28/67	Not in force	Not in force
b. 1967 (fire safety/radio)	10/25/67	5/24/68	Not in force	Not in force
c. 1968 (navigation equipment)	11/26/68	10/31/72	Not in force	Not in force
d. 1969 (equipment surveys/radio)	10/21/69	10/31/72	Not in force	Not in force
e. 1971 (radio/routing)	10/12/71	9/26/73	Not in force	Not in force
f. 1973 (editorial)	11/20/73	12/15/75	Not in force	Not in force
g. 1973 (grain)	11/20/73	12/15/75	Not in force	Not in force

APPENDIX III

Convention/Amendments	Date of final agreement	Date signed by President (Date of U.S. ratification)	Date in force for U.S.	Year in force internationally
3. Convention on the Facilitation of International Maritime Traffic, 1965	4/09/65	3/09/67	5/16/67	3/05/67
Amendment: a. 1973 (Article VII)	11/19/73	2/13/75	Not in force	Not in force
4. International Convention on Loadlines, 1966	4/05/66	11/04/66	7/21/68	7/21/68
Amendments: a. 1971 (editorial clarification)	10/12/71	9/13/73	Not in force	Not in force
b. 1975	11/12/75	(a)	(a)	(a)
c. 1976	9/01/76	(a)	(a)	(a)
5. International Convention on Tonnage Measurement of Ships, 1969	6/23/69	Not ratified	Not in force	Not in force
6. International Convention Relating to Intervention on High Seas in Cases of Oil Pollution Casualties, 1969	11/29/69	10/13/71	5/06/75	5/06/75
Amendment: a. 1973 Protocol (substances other than oil)	11/02/73	8/03/78	Not in force	Not in force

APPENDIX III

Convention/Amendments	Date of final agreement	Date signed by President (Date of U.S. ratification)	Date in force for U.S.	Year in force internationally
7. International Convention on Civil Liability for Oil Pollution Damage, 1969	11/29/69	Not ratified	Not in force	6/19/75
8. International Convention for Establishment of International Fund for Compensation of Oil Pollution Damage, 1971	12/18/71	Not ratified	Not in force	10/16/78
9. Convention on the International Regulations for Preventing Collisions at Sea, 1972	10/20/72	12/12/75	7/15/77	7/15/77
10. International Convention for Safe Containers, 1972	12/02/72	10/08/76	1/03/79	9/06/77
11. Convention on Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972	12/29/72	9/25/73	8/30/75	8/30/75
12. International Convention for the Prevention of Pollution from Ships, 1973 (Marine Pollution Convention)	11/02/73	Not ratified	Not in force	Not in force
Amendment: a. 1978 Protocol to Marine Pollution Convention	2/17/78	Not ratified	Not in force	Not in force

APPENDIX III

Convention/Amendments	Date of final agreement	Date signed by President (Date of U.S. ratification)	Date in force for U.S.	Year in force internationally
13. International Convention for Safety of Life at Sea, 1974 (SOLAS 1974)	11/01/74	8/15/78	Not in force	Not in force
Amendment: a. 1978 Protocol to SOLAS 1974	2/17/78	Not ratified	Not in force	Not in force
14. Convention on Limitation of Maritime Claims, 1976	11/19/76	Not ratified	Not in force	Not in force
15. International Convention on Training and Certification of Seafarers, 1978	7/07/78	Not ratified	Not in force	Not in force

a/Information on these amendments was not available from the Coast Guard.

APPENDIX III

APPENDIX IV

OFFICE OF THE SECRETARY OF TRANSPORTATION

WASHINGTON, D.C. 20590

ASSISTANT SECRETARY
FOR ADMINISTRATION

March 26, 1979

Mr. Henry Eschwege
Director
Community and Economic
Development Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

We have enclosed two copies of the Department of Transportation's reply to the General Accounting Office (GAO) draft report, "Greater Efforts Needed By Coast Guard To Assure Safety Of Commercial Vessels In U.S. Waters." The Department has reviewed the draft report and is in substantial agreement with many of its findings and recommendations. Our comments on the findings and recommendations are fully discussed in the enclosed statement.

If we can further assist you, please let us know.

Sincerely,

Edward W. Scott, Jr.

Enclosures

APPENDIX IV

DEPARTMENT OF TRANSPORTATION

REPLY TO

GAO DRAFT OF A PROPOSED REPORT ON

GREATER EFFORTS NEEDED BY

COAST GUARD TO ASSURE SAFETY

OF COMMERCIAL VESSELS IN U.S.

WATERS

SUMMARY OF GAO FINDINGS AND RECOMMENDATIONS [See GAO note 1, p. 109.]

The GAO draft report is a review of the Coast Guard's Commercial Vessel Safety Program. It covers the laws, policies and procedures for inspection of U.S. flag vessels; the vessel boarding and examination program; the procedures for licensing and certification of merchant vessel personnel; and the Coast Guard's efforts in the promotion of international maritime safety. The study was conducted from the summer of 1977 through the fall of 1978.

The draft report's findings and recommendations are:

-- Inspection of U.S. Flag Vessels

Findings:

- marine safety programs are impeded by staffing problems
- there is a need for trained and experienced personnel
- there is duplication between Coast Guard inspections and American Bureau of Shipping surveys

Recommendations:

The Commandant, U.S. Coast Guard, should:

- undertake a comprehensive study of the staffing needed to carry out the various activities of its entire Commercial Vessel Safety Program
- expand in-house training and establish standards for personnel qualifications in the inspection area

APPENDIX IV

- establish an inspection specialty classification and extend the tour length of inspection assignments

- consider the transfer of certain aspects of the inspection program to the American Bureau of Shipping

— Vessel Boarding and Examination Program

Findings:

- minimal direction has been provided by Coast Guard Headquarters for boarding and examining U.S. and foreign tankships

- frequency of boarding tankships has been reduced

- followup on identified tankship safety deficiencies is ineffective

- the Marine Safety Information System is not accomplishing its intended purpose

- monetary penalties are not effectively used as a deterrent to violations

- low priority given to boarding uninspected U.S. vessels

Recommendations:

The Commandant, U.S. Coast Guard, should:

- provide additional program direction to field units in conducting boardings and examinations

- require more frequent boardings and examinations of foreign and U.S. flag tankships

- improve follow-up procedures on tankship deficiencies

- correct deficiencies in and expedite completion of the Marine Safety Information System

- adopt a more aggressive policy for assessing penalties for violations

- emphasize boarding and examining uninspected U.S. commercial vessels

APPENDIX IV

-- Improve the Merchant Vessel Personnel Program

Findings:

. no practical demonstration of competence is required to obtain a merchant mariner's license

. lack of medical standards for merchant marine personnel

. Coast Guard lacks jurisdiction over vessel pilots operating under state issued license

. Shipping Commissioner functions unnecessary

Recommendations:

The Commandant, U.S. Coast Guard, should:

. establish more stringent requirements to insure professional competency is demonstrated before issuing a merchant mariner's license

. in consultation with the U.S. Public Health Service, establish more comprehensive medical standards for merchant marine personnel

. submit proposed legislation to amend 46 USC 211 to give Coast Guard jurisdiction over vessel pilots operating with state licenses

. submit proposed legislation to abolish Shipping Commissioner functions

-- Enhance International Maritime Safety

Findings:

. additional direct assistance to foreign countries needed

Recommendation:

The Commandant, U.S. Coast Guard, should:

. determine staff resources needed to provide foreign assistance to improve marine safety and to what extent this assistance could be provided on a planned basis

SUMMARY OF DEPARTMENT OF TRANSPORTATION POSITION

The DOT has reviewed the draft of the proposed report and is in substantial agreement with its basic tenets. Fifteen recommendations were made in the report. The DOT position on each recommendation has been summarized and is as follows:

— Inspection of U.S. Flag Vessels

. undertake a comprehensive study of the staffing needed to carry out the various activities of the entire CVS Program

Summary: DOT concurs

- a review of required functions is underway
- CVS Program Standards being reviewed
- a new computer compatible reporting format to be developed

. expand in-house training and establish standards for personnel qualification in the inspection area

Summary: DOT concurs

- visual training aids being procured for field units
- full scale study being prepared to establish standards and develop training program

. establish an inspection specialty classification and extend the tour length of inspection assignments

Summary: DOT concurs in part

- enlisted qualification codes to be expanded
- tour length for officers to be increased to four years

. consider the transfer of certain aspects of the inspection program to the American Bureau of Shipping

Summary: DOT concurs that this should be considered

- the Coast Guard has this matter under consideration at the present time, but implementation is not without problems

- assumption that ABS could achieve admirable results acting independently is not proven historically. Questions arise as to safety records of other maritime nations relying on classification societies for vessel inspection function

— Vessel Boarding and Examination Program

. provide additional program direction to field units in conducting boardings and examinations

Summary: DOT concurs

- recommendation substantially complied with (see enclosures)

. require more frequent boardings and examinations of U.S. flag tankships

Summary: DOT disagrees

- inspection at initial entry and annually thereafter is considered adequate

- annual inspection philosophy consistent with Presidential Initiative and with Port and Tanker Safety Act of 1978

. improve follow-up procedures on tankship deficiencies

Summary: DOT does not agree to the broad indictment, concurs with general tenet

- overall effectiveness of system ignored

- some of the difficulties have been addressed

. correct deficiencies in and expedite completion of the MSIS

Summary: DOT does not agree to the broad indictment, concurs with general tenet

- MSIS not a panacea

- system is working and improving

. adopt a more aggressive policy for assessing penalties for violations

Summary: DOT concurs with regard to pollution violations; feels better method for enforcing compliance with vessel safety violations exists

- threat of withholding Certificate of Inspection

. emphasize boarding and examining uninspected U.S. commercial vessels

Summary: DOT concurs

- triennial dockside inspection plan under development

- 30 additional billets have been approved to implement plan

-- Improve the Merchant Vessel Personnel Program

. establish more stringent requirements to insure professional competency is demonstrated before issuing a merchant mariner's license

Summary: DOT concurs

- proposed changes to licensing regulations adopting standards of International Convention on Standards of Training Certification and Watchkeeping for Seafarers, 1978

- CG/MARAD feasibility study for simulators

- radar simulation training

. in consultation with the U.S. Public Health Service, establish more comprehensive medical standards for merchant marine personnel

Summary: DOT concurs

- work being done on draft proposal to establish basic physical standards

- work being done on job-to-individual profiles

- maritime industry and USPHS reviewing and providing input

. submit proposed legislation to amend 46 USC 211 to give Coast Guard jurisdiction over vessel pilots operating with state licenses

Summary: DOT concurs

- 46 USC 211 amendment would create inconsistencies in the law

- 46 USC 239 amendment considered more appropriate and is in drafting stage

. submit proposed legislation to abolish Shipping Commissioner functions

Summary: DOT concurs

- legislation to be drafted

— Enhance International Maritime Safety

. determine staff resources needed to provide foreign assistance to improve marine safety and determine to what extent this assistance could be provided on a planned basis

Summary: DOT disagrees

- direct assistance provided on an "as requested," cost reimbursable basis

- inappropriate to plan for other countries internal interference

- if resource needs defined, Coast Guard has no resources left to shift

POSITION STATEMENT

The DOT has reviewed the draft of the proposed report and is in substantial agreement with many of its basic tenets. Disagreements exist in some areas and are fully explained in this position statement.

The position statement is divided into four areas. The first area is a general discussion of the questionable use of some of the data provided and certain methods employed by the author. The second area is devoted to specific comments on the various findings and recommendations. The third area discusses resource implications. The fourth area is devoted to a page-by-page review of the report to correct misperceptions, clarify certain facts, suggest editorial changes, and correct inadvertent deficiencies in some of the information provided. [See GAO note 2, p. 109.]

General Discussion:

The casualty statistics that are used throughout the report are often presented in a misleading manner designed to belabor a point or to lend emphasis without subjecting the statistics to necessary caveats. For example, the cover summary page, page i of the digest and page 2 of the

report all use the rise in casualty frequency from FY 72 (2,424 vessel casualties) to FY 76 (4,211 vessel casualties) to state, in so many words, that the CVS Program is ineffective, while ignoring important caveats. These include:

(1) FY 76 was a 15-month reporting period, and the use of that year's statistics should have been adjusted accordingly.

(2) A 1968 Cost/Benefit Analysis of the CVS Program identified large inequities in casualty reporting by various segments of the maritime industry. This gap has been closing in the seventies and is reflected by an increase in casualty reporting.

(3) The towboat operators licensing program in the seventies has served to acquaint a large number of additional maritime personnel with the Coast Guard's requirement for casualty reporting, thereby increasing the incidence of reports heretofore not submitted.

(4) The $1,500 damage criteria for reporting incidents has been made less meaningful by inflation, thereby including many more incidents in the reportable category.

(5) The casualty data does not have a linear relationship to the effectiveness of the inspection program. It includes casualties for uninspected vessels and, in fact, when the 1976 statistics are adjusted, the largest percentage increase in casualties is for vessels not under Coast Guard jurisdiction.

The report frequently makes use of unsubstantiated individual comments to lead the reader to certain conclusions. When this device is used, the individual's qualifications enabling him to meaningfully comment should be described. Without the qualification listing, the report's credibility is subject to question. Some examples are as follows: On page 10, statements are attributed to a "chief of an inspection department" which are so far removed from the CVS Program Director's policy on inspector qualification and training as to raise the question of that individual's competence.

[See GAO note 3, p. 109.]

In another instance, on page 47, mention is made of a "Tanker Advisory Center official," without mentioning the fact that the "Tanker Advisory Center" only has one official, Mr. William McKenzie, and that his comments are necessarily colored by his pecuniary interests.

On page 32, the GAO concludes that annual boardings of tankships are insufficient to assure that tankships are safe; and again on page 35, they conclude that inspections of U.S. flag tankers are insufficient

to assure they are safe. GAO qualifications for making such positive statements are suspect, and the input to the report from qualified sources are too limited to justify the conclusions.

As mentioned, there are many areas of the study that are entirely factual and where the conclusions are quite accurate. However, in areas of technical competency and where full understanding of inspection procedures and qualifications were necessary, the report decreased in credibility.

Specific Comments on Findings and Recommendations:

— Inspection of U.S. Flag Vessels

. the finding that marine safety programs are impeded by staffing problems is concurred with. Actions taken and/or planned to implement the recommendation to undertake a comprehensive study of staffing needs of the entire Commercial Vessel Safety Program are as follows:

- a review of legally required functions is underway to see what tasks may be done away with without negatively affecting the marine safety area

- the CVS Program Standards are being reviewed to identify new mission areas placed upon the Coast Guard by recent legislation which have not been included in tabulating Coast Guard resource needs

- based on the revised Program Standards, a computer compatible reporting format will be developed which will lend itself to cost/benefit analysis and productivity analysis as well as trend extrapolation. It is hoped that this will enable the Coast Guard to better predict resource needs as well as reallocate its existing resources in a more timely manner

. the finding that there is a need for more trained and experienced personnel is concurred with. The recommendation that in-house training be expanded is being acted on. The Coast Guard plans to install videotape machines in all of its field units during the summer of 1979. Some videotapes on specific task functions are on hand and being distributed. Other tapes will be procured as time allows. In order to establish standards for personnel qualifications, a contract is being prepared which will have three end products. It will (1) identify skill requirements necessary to perform each of the tasks performed by field personnel at Marine Safety Offices and District Merchant Vessel Safety Offices to determine what qualifications are necessary; (2) review the Coast Guard's existing training

programs to identify gaps; and (3) provide recommendations that will provide effective and comprehensive training for marine safety personnel. One major problem in the CVS training program was not touched on by the GAO report, possibly due to a factual misrepresentation on page 9. The report states that most Coast Guard inspectors have sea experience. This is true of the older inspectors. Most CVS training is based on the assumption that the individual has at least two years sea service. The Coast Guard fleet has been diminishing rapidly over the past few years as the result of vessel decommissionings without replacement. The CVS Program presently requires an entry level input of 150 sea-trained personnel every year. There are no longer enough sea billets available in the Coast Guard to provide this input. Consequently, a larger portion of our inspectors have no sea service and so the training is not as effective as it once was. A change in the training will not substitute for the lack of sea service. It is hoped that this problem can be solved by authorizations for more Coast Guard vessels

- the recommendations that an inspection specialty classification and the inspection assignment tour be extended have both been considered by the Coast Guard. Enlisted personnel who serve in the CVS Program do so because of their rating specialties (Engineman, Damage Control, Electrician, Gunner's Mate, Boatswain, etc.). The training received in the rating is directly applicable to the CVS Program. If a new inspection rating was established, the needed rating training would no longer be available and an entirely new and duplicative training effort would have to be undertaken. In addition, the existing ratings can be utilized by several mission areas of the Coast Guard. An inspection rating would be limited to one program. Qualification codes have been established for the enlisted grades and will provide the assignment officers with the necessary information to better utilize individuals after their initial tour at an MSO. The GAO recommended method is conceptually more appealing, but when considerations of the multimission nature of the Coast Guard are taken into effect, the existing system better fills the needs of the entire Coast Guard. Officers are given specialty classifications and rotate in and out of the CVS Program based on the overall needs of the service. Consideration is being given to extend the tour length for a MSO assignment from three to four years

- the finding that there is duplication between Coast Guard inspections and American Bureau of Shipping surveys is partially concurred with. There is certainly some duplication of effort between Coast Guard inspections and American Bureau

of Shipping surveys. This duplication is not necessarily evil and has not been proven cost ineffective. More often than not, especially in the field of new construction, it is more apt to be a team effort rather than the individuals going over the same ground. In the testing of main and auxiliary propulsion units, the inspection is concurrently undertaken by the USCG, the ABS, the manufacturer's representative, the shipyard's quality control team, the owner's port engineer, and the ship construction superintendent. No thought is given to duplication of effort, because each individual brings varied background and experience to the testing that no one individual would be likely to possess. The end result is a safer product

- the recommendation that consideration be given to transferring more aspects of the inspection program to the ABS is concurred with by the Department. In fact, the Coast Guard has this matter under consideration at the present time. During the course of these deliberations, the following concerns have arisen which indicate that this matter must be handled with great care to insure that the transfer of further inspection functions does not prove counterproductive

  - it is recognized by GAO, Coast Guard, ABS, and the maritime industry that the level of Coast Guard experience in its CVS Program is declining. At the same time, it is recommended that we remove Coast Guard personnel from that area of on-the-job training most necessary to become well qualified, namely field inspection. If Coast Guard personnel are excluded from drydock examinations, plan review, tanker inspection, machinery inspection, etc., where does the expertise come from to carry out other areas of the marine safety programs or to provide Coast Guard managers with the necessary background knowledge to make intelligent decisions in vessel safety matters. If the Coast Guard delegates much more of its inspection functions to outside agencies, it will be unable to instill the very familiarity and expertise its people must possess to live up to expectations of performance

  - any considerations of further delegation of authority to third parties must also consider the well established fact that it was the failure of third party inspection agencies or foreign governments that led to the present USCG inspection of foreign flag passenger ships in 1966 and more recently foreign flag tank vessels in 1977. The Argo Merchant, Amoco Cadiz Torrey Canyon, Yarmouth Castle, Morrow Castle, et. al. were all under survey of one classification

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society or another. These disasters, especially those involving vessels not inspected by the Coast Guard, were the driving force behind this GAO study. No one has considered the simple notion that the reason why U.S. flag vessels have a better safety record is because there are two individuals inspecting the vessel, each acting to insure the adequate performance of the other, each working for a separate agency. The governments of France and Greece have recently announced that they intend to create agencies similar to the Coast Guard to perform marine safety inspections in conjunction with classification societies in an attempt to upgrade the safety records of their respective merchant fleets.

- the American Bureau of Shipping does not class small passenger vessels, certain public vessels, inland barges, towboats, or offshore supply boats. They are also not the only classification society employed for U.S. flag vessels, but share this function with Lloyds, Bureau Veritas, and other societies.

- the Commandant is not empowered to delegate his authority. If additional vessel inspection functions are delegated to ABS, the Coast Guard would be required to institute monitoring procedures. The monitoring procedure in itself would require a fairly large Coast Guard complement. The end result might very well result in a minimal saving of resources

— Vessel Boarding and Examination Program

. the finding that minimal direction was being provided by Coast Guard Headquarters for boarding and examining U.S. and foreign tankships was correct at the time of the GAO review. The recommendation that additional program direction be given to field units has been substantially carried out and continued effort is being expended in this direction. The program directions given to the field to date are as follows:

- 21 January 1977 - initial message, enclosure (1)

- 25 January 1977 - amplifying message, enclosure (2)

- 22 February 1977 - procedures for initial administration of the program, enclosure (3)

- 17 March 1977 - Presidential Initiative

- 5-6 April 1977 - Tanker Safety Conference held in Washington, D.C. Established general policy guidelines and administrative procedures for use as the basis of Commandant's Instruction as well as served as an interim guide, enclosure (4)

- April 1977 - commenced initial drafting of Commandant Instruction

- June 1977 - Navigation Safety Regulations became effective (33 CFR Part 164) and were added to the scope of the safety examination program

- 7 September 1977 - Interim Marine Safety Information System on line, enclosure (5)

- 31 December 1977 - manual biweekly ALDIST listing of foreign tankers with deficiencies disestablished. Interim MSIS System considered fully operational, enclosure (6)

- 16 February 1978 - Commandant Instruction 15711.4 published in conjunction with Commandant's Notice 16616, enclosures (7) and (8)

- 27 May 1978 - Commandant Notice 16711 notified field offices of the availability of standard form letters and a new Tankship Hull Inspection Book, enclosures (10), (11), (12), and (13)

- 30 December 1978 - Chapter 32 of the Marine Safety Manual (CG-495), "Inspection and Examination of Foreign Vessels," published

- the finding that the frequency of boarding tankships has been reduced is correct. The recommendation that more frequent boardings and examinations of foreign and U.S. flag tankships is not agreed with. The Coast Guard initially, in January 1977, established a program to board and examine a maximum number of tankships in a minimum amount of time. This was done in direct response to the numerous tankship casualties which occurred during the winter of 1976-77 to identify as rapidly as possible those tankships which were in a substandard condition. This initial goal has been accomplished. The Coast Guard has determined that boarding and examining each tankship at its initial arrival at a U.S. port and at least annually thereafter will insure that substandard tankships will continue to be denied entry into U.S. ports. This philosophy is consistent with President Carter's Initiatives of 17 March 1977 and with the recently enacted Port and Tanker Safety Act of 1978

- the finding that the followup on identified tankship safety deficiencies is ineffective and the recommendation that the follow-up procedures be improved are too broad in their indictment of the MSIS system and are based upon a small number of examples. The overall effectiveness of the system is ignored. The system is by no means a panacea. Some of the difficulties inherent in the system design have been addressed and hopefully corrected. There are numerous cases on file where the use of the system to track a vessel or alert a field office has kept the potential problem vessel out of a U.S. port. These aspects have been overlooked. Only those incidents where boardings were not performed were documented by the GAO investigators, and then no attempt was made to cite the reasons for not boarding

- the finding that the MSIS is not accomplishing its intended purpose and the recommendation that system deficiencies be corrected are basically responded to in the previous paragraph. The Coast Guard is moving as expeditiously as possible to complete the MSIS

- the finding that monetary penalties are not being effectively used as a deterrent to violations and the recommendation that a more aggressive policy in assessing penalties be adopted are concurred with in part. When dealing with vessel safety regulations, the monetary penalties are minimal and would be assessed against the master of the vessel rather than the owner. A better method of forcing compliance with the vessel regulations is the threat of withholding the Certificate of Inspection. It is assumed that the objective function of the CVS Program is compliance with the regulations to insure the safety of the vessel. If the alternative given to the shipowner is a possible $500 fine against his representative or make expensive repairs, he probably will accept the risk of a $500 fine and proceed with an unsafe vessel. If the alternative is make the repairs or lose the Certificate of Inspection, thereby tying up the vessel at a possible cost of $100,000 a day, he will probably make the repairs. The GAO suggested method may make small amounts of money for the Treasury Department at the expense of the Justice Department but contributes little to safe vessels. The Coast Guard method provides safe vessels. In the area of pollution violations, the Coast Guard presently does not have a weapon equivalent to the Certificate of Inspection. In these areas, a more aggressive policy may well have to be pursued

- the finding that low priority has been given to boarding uninspected U.S. vessels is correct. The recommendation that the Coast Guard emphasize boarding and examining uninspected U.S. commercial vessels is being pursued. A program of triennial dockside safety boardings at the mutual convenience of the owners and the Coast Guard is

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under development. Approximately 30 additional billets have been approved for assignment to the Commercial Vessel Safety Program to begin implementation. The Coast Guard is also supporting a legislative package introduced as H.R. 327 to provide the Coast Guard with authority to inspect and regulate commercial vessel towing vessels and equipment as well as require the licensing of officers and certification of crews. Similarly, the Coast Guard is considering a proposal for authority to issue vessel safety, equipment and occupational safety and health regulations for fishing vessels

— Improve the Merchant Vessel Personnel Program

. the finding that no practical demonstration of competence is required to obtain a merchant mariner's license is concurred. The recommendation to establish more stringent regulations and consider the use of simulators is already being implemented. Presently the Coast Guard is drafting proposed changes in our licensing regulations that will incorporate the mandatory parts of the recently adopted International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, that exceed our present licensing requirements. This will include the provisions of Regulation II/5 and Regulation III/5 which provides for the "Mandatory Minimum Requirements to Ensure the Continued Proficiency and Up-Dating of Knowledge for Masters and Deck and Engineer Officers." The Coast Guard has realized that simulator training may have many beneficial aspects in the licensing process for certain licensed officers. In light of this, the Coast Guard with the Maritime Administration has contracted for a feasibility study concerning the use of simulators. Due to the increasing size and speed of vessels, the increased proportion of dangerous goods being transported, and the increased damage potential as a result of collisions, rammings, groundings, and other accidents, simulator training may be desirable. It is anticipated that the study will reveal what type of simulator training is needed and to whom it should apply. The type of training that a future master would undergo would not be expected to be the same as a third mate or second mate. The final results of this study will not be completed until 1981, but it is expected that many answers will be supplied by the study before the final completion date. In addition to this study, the Coast Guard will, in the very near future, issue proposed regulations which will require those deck officers on inspected U.S. vessels of over 300 gross tons to undergo radar simulator training prior to the issuance of a Radar Observer Endorsement

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- the finding that there is a lack of medical standards for merchant marine personnel is concurred with by the Department. The recommendation that the Coast Guard establish more comprehensive medical standards for merchant marine personnel in conjunction with the U.S. Public Health Service is currently being carried out. Starting in November 1978, the Coast Guard has been formulating draft proposals to establish basic physical standards as well as implement a job-to-individual profile for use by all physicians examining merchant vessel personnel. Members of the maritime industry as well as Public Health Service officials have reviewed and offered sound criticism and advice to our initial proposals. The effort is continuing and it is expected that a final draft will be published in the near future

- the finding that the Coast Guard lacks jurisdiction over vessel pilots operating under the authority of state licenses is correct. The recommendation to amend 46 USC 211 to extend Coast Guard jurisdiction will be considered. A legislative proposal has already been drafted to amend 46 USC 239 granting authority to suspend or revoke Federal licenses, documents and certificates held by seamen who, in the performance of their duties, commit acts which render them unfit or unsuitable to retain a license, document, or certificate. According to the proposal, service "under the authority" of a license or document is not a prerequisite to suspension and revocation proceedings. However, the proposal does not cover licenses, commissions, or other documents issued by states

- the finding that the Shipping Commissioner function is no longer necessary is concurred with by the Department. The recommendation to submit proposed legislation to abolish this function will be undertaken

-- Enhance International Maritime Safety

- the finding that additional direct assistance to foreign countries is needed is agreed with by the Department. The recommendation to determine staff resources needed to provide this assistance and determine that portion that could be provided on a planned basis is subject to question. The ability to determine the resources needed or to determine the planned portion necessary is extremely difficult when such direct assistance is in fact provided on an "as requested," cost reimbursable basis. Under existing resource restraints, the Coast Guard is stretched to the absolute bitter end. Even if new resources were made available, the skill levels required will need a lengthy time frame for development. At the level

of assistance recommended, the time frame is 10 to 15 years. If the number of resources were in fact defined, the Coast Guard would not be able to shift its existing scarce resources to meet the need.

RESOURCE IMPLICATIONS

The cost implications of the GAO recommendations are minimal. Thirteen of the 15 recommendations were concurred with and action has already been started, or in two instances substantially completed, to implement the recommendations. In the two recommendations not agreed upon, cost was not the significant factor, rather philosophical differences or the lack of immediately available qualified personnel.

[See GAO note 2, below.]

GAO notes

1. Page references in this appendix refer to the draft report and do not necessarily agree with the page numbers in this final report.

2. Editorial and clarifying comments are not included, but were considered in this report.

3. The deleted comments relate to matters which were discussed in the draft report but omitted from this final report.

APPENDIX V

DEPARTMENT OF STATE

Washington, D.C. 20520

March 8, 1979

Mr. J. K. Fasick
Director
International Division
U. S. General Accounting Office
Washington, D. C.

Dear Mr. Fasick:

I am replying to your letter of February 12, 1979, which forwarded copies of the draft report: "Greater Efforts Needed by Coast Guard to Assure Safety of Commercial Vessels in U.S. Waters."

The enclosed comments on this report were prepared by the Agency Director of Transportation and Communications for the Bureau of International Organization Affairs.

We appreciate having had the opportunity to review and comment on the draft report. If I may be of further assistance, I trust you will let me know.

Sincerely,

Roger B. Feldman

Roger B. Feldman
Deputy Assistant Secretary
for Budget and Finance

Enclosure:
As stated

Department of State Comments

on

GAO Draft Report: "Greater Efforts Needed by Coast Guard to Assure Safety of Commercial Vessels in U.S. Waters"

The U.S. Coast Guard provides the most active participation of any member state of the Inter-Governmental Maritime Consultative Organization (IMCO). The participation by the U.S. Coast Guard in all of the working bodies of IMCO makes the United States one of the most, if not the most, influential member of IMCO. The Coast Guard submits more study papers and proposals to IMCO's technical committees and subcommittees than any other member. Those study papers and proposals ultimately lead to international agreements which increase the safety of life and property at sea, and improve the protection of the marine environment. They also provide a means of transfer of technology from the U.S. to the developing countries.

The working relationships in IMCO between the Department of State and Coast Guard are excellent. The Coast Guard has never failed to give sympathetic consideration to any request for assistance to a foreign country, requested through the Department of State, but the ability of the Coast Guard to provide anything more than a short consultative visit, or training literature, is even more limited than indicated by the draft report.

1. Some foreign coast guard services are not military and do not, therefore, qualify for U.S. training under the MAP program.

2. The MAP program has been significantly reduced in recent years.

3. Many foreign coast guard personnel donot know English well enough to study at coast guard training institutes and fiew coast guard offices know foreign languages well enough to be able to transfer technology in foreign languages.

4. The Helm's Amendment attached to P.L. 95-431 forbids the use of assessed budgets of international organizations for technical assistance.

Therefore, if it is the wish of Congress that the Coast Guard take a more active role in providing foreign assistance to improve foreign vessel safety, the necessary funding would have to be authorized by Congress.

There are a few typographical corrections that will be given orally.

February 28, 1979

* U.S. GOVERNMENT PRINTING OFFICE : 1979 - 620-167/184

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