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BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Honorable Elizabeth H. Dole  
The Secretary Of Transportation

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## Management Improvement Could Enhance Enforcement Of Coast Guard Marine Safety Programs

In managing its marine safety programs, the Coast Guard periodically inspects and boards vessels entering the United States to determine compliance with safety regulations. The Coast Guard uses data on vessels' enforcement history to assist it in determining those warranting inspection and boarding. The Coast Guard also relies on data from its field units to assist it in making personnel resource determinations.

GAO found that the Coast Guard used inaccurate and incomplete information in its oversight of enforcement activities at the field level.

Accordingly, GAO is recommending that the Coast Guard improve its collection, analysis, and use of information on marine industry activities to execute its marine safety responsibilities more effectively.

The Department of Transportation said that the Coast Guard is aware of the GAO identified weaknesses and has taken steps to improve many of the issues brought out in this report.



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UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

RESOURCES, COMMUNITY,  
AND ECONOMIC DEVELOPMENT  
DIVISION

B-215843

The Honorable Elizabeth H. Dole  
The Secretary of Transportation

Dear Madam Secretary:

This report discusses marine safety enforcement issues that need attention. The report contains recommendations to you on pages 19, 28, and 41.

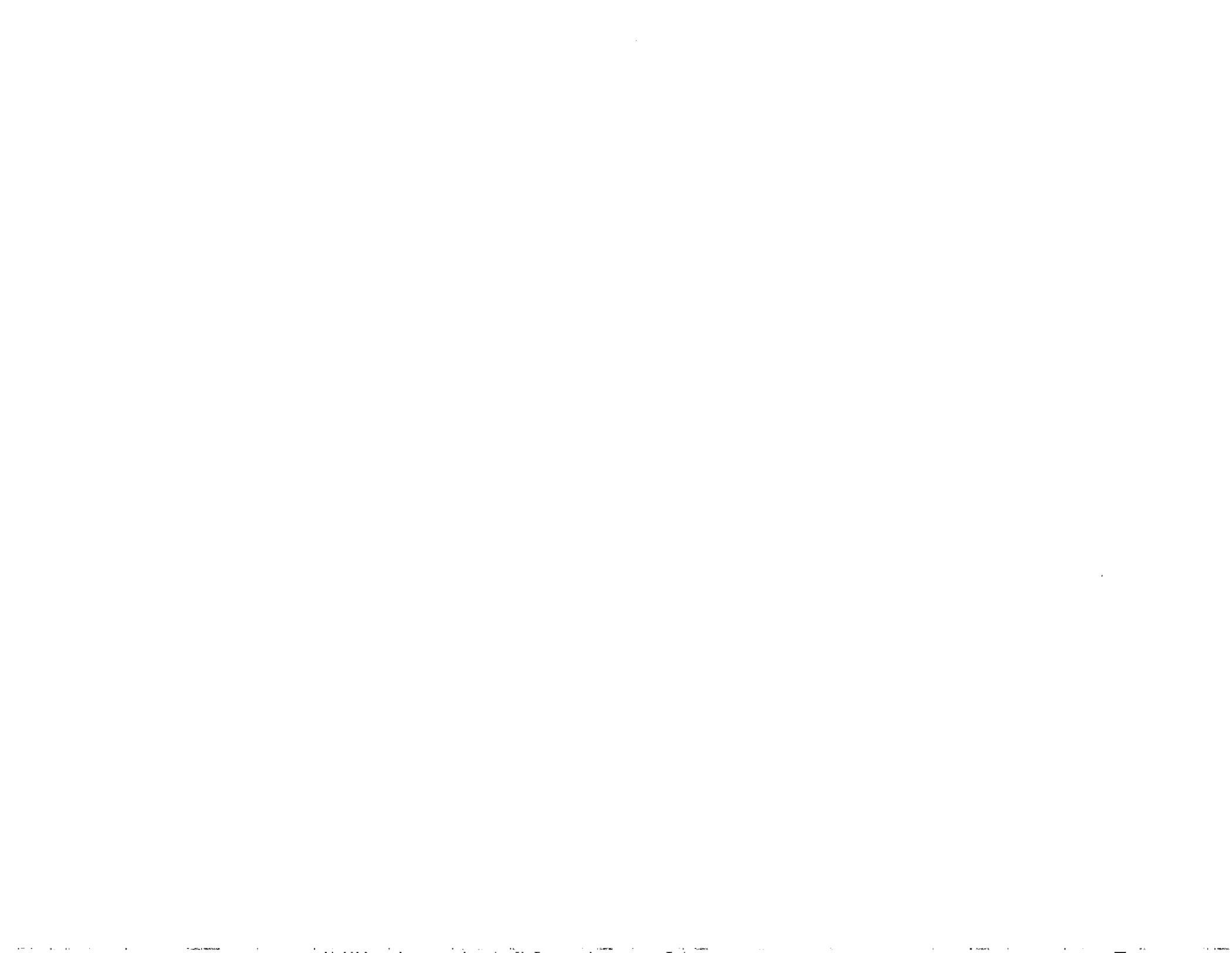
As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Government Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

In addition to the Committees mentioned above, we are sending copies of this report to your Assistant Secretary for Administration and the Commandant, U.S. Coast Guard.

Sincerely yours,



J. Dexter Peach  
Director



D I G E S T

The U.S. Coast Guard, within the Department of Transportation, is responsible for developing, implementing, and enforcing maritime safety regulations. Coast Guard regulations require inspections of vessels and port facilities to promote and ensure the safety of life, property and the environment in and on U.S. waters. According to the Coast Guard's most recent available figures, 274 deaths and 209 injuries were due to vessel casualties in 1983. Property damage for the same year totaled almost \$65 million. (See p. 1.)

The Coast Guard carries out these responsibilities with two similar but distinct programs:

- the Commercial Vessel Safety Program, under which it inspects U.S. vessels during construction and periodically thereafter to ensure that they are built and maintained in accordance with federal safety standards and
- the Port and Environmental Safety Program, under which it boards U.S. and foreign vessels to examine safety-related items, such as navigation and pollution prevention equipment, and checks for proper storage and handling of hazardous or dangerous cargo. (See pp. 2 and 3.)

The Coast Guard received a fiscal year 1985 appropriation of \$2.5 billion and has about 45,000 civilian and military personnel. The budget for these two safety programs, which utilize about 3,700 civilian and military personnel, is about \$186 million. (See p. 4.)

Because of increased congressional and public concern about transportation safety issues, GAO has undertaken a series of reviews on how safety enforcement activities are carried out by various agencies within the Department of Transportation. This report discusses the Coast Guard's management of its safety programs.

GAO focused this review on information support systems and enforcement actions taken as a result of inspections and boarding. GAO's work was conducted at Coast Guard headquarters and 12 of its 54 field units, located in 5 of its 12 districts. However, GAO limited its work at certain locations because (1) some activities were not performed at all the field units visited and (2) the results obtained at other field units in the same district did not require additional work within the district to confirm data gaps and inconsistent information.

While the results of GAO's work cannot be statistically projected for all 54 field units, the information that GAO collected is generally representative of the Coast Guard's safety enforcement programs. (See pp. 7 to 9.)

#### DATA USED IN MAKING STAFFING DECISIONS CAN BE IMPROVED

The primary data source for deciding the Port and Environmental Safety Program's staffing requirements (i.e., the number and appropriate location of people needed) is the Port and Environmental Safety/Marine Environmental Response Quarterly Activities Report. Using this report, field units record the total number of program-related maritime activities occurring in their areas and the actual number of hours spent carrying out their enforcement responsibilities (e.g., number of cargo transfers that occurred and number of these transfers they monitored).

Coast Guard headquarters compares this historical workload data with existing staffing levels of its field units. Also, it compares this workload data to program standards to measure field units' program performance. These comparisons enable Coast Guard headquarters to assess its programmatic staffing needs. (See p. 11.)

While not identifying misallocations of Coast Guard resources, GAO's analysis of 10 field units' Quarterly Activities Reports showed that 7 field units were not always correctly and consistently reporting workload information. However, GAO did not determine the extent of the reporting errors but rather reviewed Coast Guard procedures and analyzed the accuracy of the data being reported. (See p. 12.)

For example, one unit's Activities Report showed that a total of 281 tankship oil cargo transfers occurred in the unit's port in one quarter. Data GAO obtained from the local marine exchange showed the actual number to be 439. (See p. 12.)

Coast Guard instructions concerning the report require field and district staff to verify the accuracy and completeness of the information reported. Although not able to determine the reasons for the errors, GAO found indications that field and district officials placed little emphasis on verifying the reported information. (See pp. 12 and 13.)

Because of identified errors, GAO believes the Quarterly Activities Reports' data are not as reliable as they could be. Officials in the Port and Environmental Safety Program can improve the accuracy and consistency of the workload data its field units report by determining if they verify the accuracy and completeness of the data entered into the Quarterly Activities Report as required by Coast Guard instructions. (See p. 13.)

#### COAST GUARD CAN IMPROVE THE QUALITY OF ITS ENFORCEMENT INFORMATION

In selecting vessels to inspect and board and for following up on vessels with identified safety deficiencies, the Coast Guard uses the Marine Safety Information System. This system provides Coast Guard field units needed safety enforcement information, such as the results of past inspections and boardings of U.S. and foreign vessels. By reviewing a vessel's history, Coast Guard field units can focus their enforcement activities on those vessels with prior safety problems. (See p. 21.)

While the Marine Safety Information System was under development, the Coast Guard used an interim system to record information related to U.S. and foreign vessel boarding activities and some results of vessel inspection activities. (See pp. 21 to 23.)

Subsequent to GAO's field work, the "port safety" component of the Marine Safety Information System became operational. This component pertains to Coast Guard boarding activities, such as results of vessel examinations of navigation safety and pollution

prevention items. Because the interim system contained this type of information, it was incorporated into the new System. (See pp. 20 and 21.)

GAO analyzed the superseded interim system at four field units in two districts to determine if (1) the results of the field units' vessel boarding and inspection activities were being entered and (2) the data entered were accurate. GAO found that these units were not always accurately or consistently entering enforcement data into the interim system. For example, vessel deficiency information, which is a major source of information on past inspections, contained numerous data errors and/or omissions. Because the Coast Guard uses this information to decide which vessels should be inspected or examined, the inaccurate information could affect the Coast Guard's ability to focus its enforcement activities. Also, this inaccurate data was transferred into the new Marine Safety Information System. (See pp. 23 to 25 and 26 to 27.)

Although unable to identify all the reasons for the errors and omissions, GAO found that Coast Guard headquarters had not provided specific guidance to the field units or conducted any oversight operations to ensure the integrity of the data in the interim system. Instead, Coast Guard headquarters' guidance states that the accuracy and timeliness of data entered into the system is the responsibility of each field unit. In addition, GAO found that the four field units had not established adequate procedures for ensuring data quality. (See pp. 24 and 25.)

The problems GAO identified at the four field units and the lack of field unit procedures and headquarters oversight identify system problems as to the adequacy of information in the "port safety" component of the Coast Guard's Marine Safety Information System. (See pp. 27 and 28.)

#### FOLLOW-UP ON VESSEL DEFICIENCIES IS INADEQUATE

If safety-related deficiencies, which are found during inspection of a U.S. vessel, cannot be corrected immediately, the Coast Guard issues a Notice of Merchant Marine Inspection Requirements to the vessel's operator. Examples of such deficiencies include a broken boiler casing which allows various gas

leaks, and leaks in a vessel's lifeboat. This notice would specify a date by which the correction must be made. (See pp. 2 and 26.)

According to Coast Guard policy, the field unit that issues a notice has primary responsibility for following up on the notice to ensure the vessel's compliance with inspection requirements within the prescribed time frame. However, GAO found that 10 of the 11 Coast Guard field units, for which it analyzed the follow-up system, were not (1) maintaining a follow-up system for outstanding deficiency notices or (2) following up on notices they issued. For example, during GAO's visit, one field unit had not followed up on 39 of the 55 notices it had issued. GAO found that follow-up on the deficiencies cited in these 39 notices were overdue. (See pp. 26 and 27.)

Although the Coast Guard relies on its field staff to follow up on outstanding safety deficiencies, it does not have a mechanism to ensure that (1) deficiencies are entered into the Marine Safety Information System and (2) follow-up action on recorded deficiencies is taken. Without an adequate inspection follow-up system, there is no assurance that safety or other types of vessel deficiencies are corrected. (See p. 27.)

#### MONITORING THE NATIONAL CARGO BUREAU

The National Cargo Bureau (NCB), a private nonprofit organization, performs inspections to ensure the safe storage, loading, and unloading of cargo and the safety of cargo-handling gear aboard vessels. Bureau personnel are located in major U.S. ports. Vessel owners contract with the NCB to obtain its certification. This certification helps assure owners, shippers, and insurance underwriters that the stowage of cargo aboard a vessel complies with the organization's standards. (See p. 6.)

Because of the similarity of the bureau's inspections to those of the Coast Guard, the Coast Guard has entered into an agreement with this organization to perform certain inspection activities on behalf of the Coast Guard. Under this agreement Coast Guard field personnel, generally, will not inspect cargo stowage if the Cargo Bureau is retained to oversee the

vessel's hazardous cargo operations. (See pp. 6 to 7.)

The purpose of this agreement is to improve the use of each other's resources and eliminate duplicative inspection activities. However, the Coast Guard still retains responsibility for ensuring that federal statutory and regulatory requirements related to U.S. vessel and port safety are maintained. (See pp. 13 and 14.)

The Coast Guard has issued general guidance concerning oversight of NCB activities by its field units. The guidance instructs field units to coordinate their dangerous cargo boardings with local bureau personnel and to provide such oversight of bureau activities as necessary, including spot check verification. (See p. 15.)

GAO found that the Coast Guard at the six field units it reviewed that had NCB activities did not routinely oversee bureau inspection activities. Instead, the field units generally performed oversight when they happened to be aboard the vessel at the same time as NCB personnel or as staffing permitted. In addition, GAO found that no specific guidelines had been developed by either the Coast Guard headquarters or the field units as to what might constitute adequate oversight. (See pp. 15 and 16.)

While GAO did not review the adequacy of bureau inspections, its analysis showed that the Coast Guard has not established systematic procedures to ensure that bureau activities performed on the Coast Guard's behalf meet federal requirements and help ensure safe cargo operations. (See pp. 15 and 16.)

#### DISSIMILAR VESSEL EXAMINATION CHECKLISTS POSE POSSIBLE PROBLEM

Coast Guard personnel board vessels to conduct examinations of navigation and other safety-related items and pollution prevention equipment. Criteria for vessel boardings are provided in Coast Guard regulations and instructions. The instructions include a requirement that examinations be conducted in a uniform and consistent manner. To do this each Coast Guard field unit has developed a checklist to assist its personnel in conducting vessel examinations. (See p. 30.)

GAO reviewed the checklists used by 10 field units in 4 districts and found that some did not include all the safety-related and other items that Coast Guard regulations require to be inspected. Therefore, there is a potential--depending on the experience, training, and thoroughness of the Coast Guard boarding team members--that some safety-related items are not inspected. For example, one field unit's checklist did not include verification that certain vessels have a dual radar system. Whether this is inspected will depend on the boarding members' knowledge of the regulations relating to the dual system requirement. (See pp. 31 to 33.)

GAO believes that the Coast Guard could easily correct this problem by developing a uniform checklist to be used by all field units. (See p. 41.)

#### RECOMMENDATIONS TO THE SECRETARY OF TRANSPORTATION

GAO's audit focused on the Coast Guard's management of the safety programs. Based on its analysis, GAO recommends that the Secretary of Transportation direct the Commandant of the Coast Guard to take the following action to enhance its program management:

- Issue guidance to field units prescribing methods to verify the accuracy and completeness of the Quarterly Activities Report (such guidance could include a requirement that field units and district staffs selectively test and ensure that the data reported are accurate). (See p. 19.)
- To the extent that the Coast Guard determines necessary, it should correct data base deficiencies in the port safety component of the Marine Safety Information System and establish procedures to ensure that future data are entered into the system accurately and consistently. (See p. 28.)
- Establish procedures to periodically review the field units' processing of outstanding vessel deficiencies to ensure that they are following up and that corrective action is taken. (See p. 28.)
- Determine the needed oversight of NCB's activities performed on behalf of the Coast Guard and develop appropriate field unit

procedures and reporting requirements. (See p. 19.)

--Develop a uniform checklist for use by all boarding teams conducting vessel examinations to include all applicable vessel safety items specified in federal regulations. (See p. 41.)

#### AGENCY COMMENTS AND GAO'S EVALUATION

The Department in commenting on the report said that the Coast Guard was aware of the weaknesses that GAO identified. During the Coast Guard's normal program management, steps are being taken or planned to improve many of the conditions GAO discusses. (See pp. 42 to 45.)

In GAO's opinion the actions being planned or underway have the potential, if properly implemented, to correct the problems discussed in the report.

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ABBREVIATIONS

ABS	American Bureau of Shipping
CVS	Commercial Vessel Safety
GAO	General Accounting Office
NCB	National Cargo Bureau
OIG	Office of Inspector General
PES	Port and Environmental Safety

## CHAPTER 1

### INTRODUCTION

The United States has more major shipping ports and a larger coastline than any other nation. Thus, marine casualties and their effects, including ecological damage and loss of life, are of great public concern. In 1983, the most recent available Coast Guard figures, 274 deaths and 209 injuries were due to vessel casualties. Property damage for the same year totaled almost \$65 million. Recent vessel casualties, including the sinking of the Marine Electric in February 1983 and the loss at sea of the SS Poet in October 1980, with a combined loss of 65 lives, highlighted problems in vessel safety.

Protecting U.S. ports from shipping disasters and minimizing the environmental damage from accidents, such as oil spills, chemical discharges, and refuse dumping, are important federal responsibilities. Over the last 80 years, the Congress has enacted several laws aimed at promoting maritime safety. The Coast Guard has been given the major responsibilities for carrying out this legislation.

### MISSIONS AND PROGRAMS OF THE COAST GUARD

The U.S. Coast Guard is one of the oldest continuous federal government organizations, having been established by the Congress in 1790 as the Revenue Marine. 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. Since 1967 the Coast Guard has been a part of the Department of Transportation. In recommending the establishment of the Department, President Johnson summarized the Coast Guard's role as an agency "whose principal peacetime activities relate to transportation and marine safety." Its main functions during peacetime are to (1) administer programs designed to protect life and property at sea, (2) regulate vessel-related programs that affect much of the marine transportation industry, and (3) enforce all federal laws on U.S. waters.

The Coast Guard's missions are administered through its 13 operating programs. Some results of these programs are as follows: assurance that construction of commercial vessels meets safety requirements; enforcement of laws and treaties, such as those preventing drug trafficking; the boarding of vessels to ensure compliance with operating requirements; assurance that recreational boats meet construction standards and education of the public on safe boating practices; and performance of search and rescue missions. The Coast Guard also has 12 support programs, which support the activities of its operating programs. The support programs include the following activities: providing health services to Coast Guard personnel, performing personnel management activities, and conducting research and development.

## The Coast Guard's safety mission

The objectives of the Coast Guard's marine safety activities are to minimize deaths, injuries, property loss, and damage to the environment that can result from marine casualties. To meet these objectives, the Coast Guard regularly inspects U.S.-registered (flag) vessels to ensure that they meet all construction standards and are being maintained and repaired properly. In addition, the Coast Guard boards foreign- and U.S.-flag vessels entering U.S. ports to determine whether the vessels meet U.S. safety and environmental requirements. The Coast Guard carries out its marine safety enforcement efforts under the Commercial Vessel Safety (CVS) program and the Port and Environmental Safety (PES) program.

Under the CVS program the Coast Guard inspects a vessel from "cradle to grave." Prior to vessel construction or major modification, vessel plans are reviewed and approved by the Coast Guard to ensure compliance with federal safety standards. The items examined include hull structure, propulsion plant, cargo containment space and handling capability, navigation equipment, crew accommodations, lifesaving equipment, firefighting capability, vessel's structural fire resistance, and safe operating conditions for the crew.

During a vessel's construction or modification, CVS inspectors conduct on-site inspections at the shipyard to ensure that only approved equipment is installed, proper construction materials are used, and all segments of the vessel are built in accordance with approved plans.

Once a vessel is in service, it is subjected to periodically inspected by CVS inspectors to ensure that it is being maintained to minimum safety standards. The time periods between required inspections vary according to the vessel's use (e.g., carries passengers and/or cargo) and the routes traveled (e.g., ocean or inland waterways). If a CVS inspector identifies a safety deficiency but correction is not immediately required, the inspector may issue a Notice of Merchant Marine Inspection Requirements (CG Form 835). Examples of deficiencies that may be listed on the notice include a broken boiler casing which allows various gas leaks, leaks in a vessel's lifeboat, or a fire extinguisher in need of servicing. This notice describes the nature of the deficiency and specifies a time period for correction.

The Coast Guard's PES program includes responsibilities for port safety, port security, and environmental protection. These responsibilities are accomplished through a number of activities, including

- boarding both U.S. and foreign vessels periodically to (1) examine them for compliance with U.S. laws and regulations pertaining to navigation safety and pollution prevention and (2) ensure that hazardous cargo is labeled and stored in compliance with Coast Guard regulations;

- witnessing the transfer from vessels to shore of bulk liquid cargo, such as oil, to prevent pollution;
- supervising the loading of military explosives aboard vessels; and
- inspecting and spot checking waterfront facilities for compliance with U.S. laws and regulations concerning pollution prevention and storage of cargo.

Under the CVS Program the Coast Guard approves plans for and inspects approximately 600 vessels under construction each year. It also conducts approximately 20,800 inspections of U.S.-flag vessels and 5,600 examinations of foreign vessels for compliance with safety regulations annually. Under the PES Program the Coast Guard annually conducts approximately 40,300 boardings of cargo vessels/barges and 35,600 waterfront facility inspections to ensure their compliance with safety requirements.

When the Coast Guard finds violations of regulations under either the CVS or PES programs, immediate correction may be required and/or a civil penalty case may be processed through a Coast Guard hearing officer. Hearing officers are located in each of the 12 district offices. Enforcement actions range from requiring correction of the violation, to issuing letters of warning that state that no penalty action will be taken but place the violator on notice that a violation was committed, to assessing civil penalties. The enforcement action taken by a hearing officer is based on an interpretation of the severity of the violation, any mitigating circumstances, and in accordance with appropriate statutes.

During the last 10 years, the Coast Guard has been developing a Marine Safety Information System. This system, now called the "Long-Range" Marine Safety Information System, is viewed by the Coast Guard as an important tool for supporting its marine safety enforcement efforts. A major purpose of the system is to provide field personnel, with CVS and PES program responsibilities, with a complete history of Coast Guard enforcement activities related to vessels that previously enter United States ports. This history includes the findings and results of Coast Guard inspections and boardings of U.S. and foreign vessels. While the long-range system has been under development, the Coast Guard has been using an "interim" Marine Safety Information System. This interim system was a scaled-down version of the long-range system, and thus, provided field units with limited enforcement information.

#### ORGANIZATION AND MANAGEMENT OF THE MARINE SAFETY PROGRAMS

In fiscal year 1985, the Coast Guard's marine safety programs comprised approximately 8 percent of the authorized Coast Guard staffing and received approximately 7 percent of its total

funding. Both personnel and funding were divided between the CVS and PES programs that were responsible for vessel and other safety inspections. The CVS and PES program managers, through annual updates of their 5-year program plans, base their resource allocations on the Commandant's Long Range View, which describes the Coast Guard's operational environment for the next 25 years, and on historical data pertaining to previous workloads experienced by the programs.

### Funding and staffing

The Coast Guard's fiscal year 1985 appropriation was \$2.5 billion. Of this appropriation, the CVS and PES programs' operating budgets were \$95.8 and \$89.9 million, respectively. The Coast Guard's authorized personnel level for the same year, which included both military and civilian personnel, totaled approximately 44,815 full-time permanent personnel. Staffing for the CVS program totaled approximately 2,051 military and civilian personnel; the PES program totaled 1,618 military and civilian personnel. Of this program staffing, approximately 960 personnel are assigned to the field unit level.

### Organization

Within the Coast Guard, the Office of Merchant Marine Safety administers the CVS program while the Office of Marine Environment and Systems directs the PES program. Each of the Coast Guard's 12 district offices has a Marine Safety Division that oversees both programs at 54 field units<sup>1</sup> located throughout the United States primarily in major port areas. These field units are generally responsible for carrying out the functions of the CVS and PES programs.<sup>2</sup> Additionally, some CVS inspectors are temporarily located in foreign countries to oversee the new construction of U.S. vessels.

CVS inspectors are either commissioned or warrant officers. The inspectors usually are assigned to work in shipyards in their field unit's area. PES personnel are either commissioned officers or enlisted personnel. Coast Guard personnel, in both CVS and PES, are assigned to a field unit on a full-time basis for specific tours of duty, typically 4 years in length.

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<sup>1</sup>There are three types of field units for marine safety: the Marine Inspection Office, the Captain of the Port Office, and the Marine Safety Office. The Marine Inspection Office performs CVS activities while the Captain of the Port Office performs PES activities. However, the majority of the field units are Marine Safety Offices that perform both CVS and PES activities.

<sup>2</sup>The CVS program's vessel plan review function is the responsibility of Merchant Marine Technical Branches which are under Marine Safety Divisions. Only three districts' Marine Safety Divisions have such branches.

## Resource decisions

The process for determining the Coast Guard's resource needs begins with the development of the Commandant's Long Range View. This document prescribes the Commandant's view of the environment in which the Coast Guard will operate over the next 25 years. The Long Range View is a policy document that provides a common foundation for all planning at Coast Guard Headquarters and in the field. This document does not address how resources should be allocated in the anticipated Coast Guard operating environment.

Program managers for the 13 operating programs use the guidance contained in the Long Range View for developing operating program plans. These plans, updated annually, cover a 5-year planning range and describe the direction a program will take during the 5-year period.

For its operating programs, the Coast Guard has established program standards and expectations that express the tasks and their frequency of performance. For the marine safety programs, these standards are based on law and/or Coast Guard regulations with the intent of ensuring marine safety. These standards are established also to ensure optimal use of Coast Guard resources. The frequency of a task's performance varies on the basis of a specific standard. For example, under the CVS program, U.S. cargo vessels undergo a biennial inspection. Field units must inspect 100 percent of the cargo vessels that apply for these biennial inspections. Under the PES program field unit personnel are required to witness 5 percent of the bulk liquid cargo transfers that occur.

Program resource requirements for the 5-year planning period are based on field units' historical workload data (enforcement activities performed and staff-time expended). In other words, workload analysis is a measure of past activity and past unit requirements. For the CVS program field units' report their workload data to Coast Guard headquarters monthly on the (1) Report of Material Inspections and (2) List of Merchant Vessels Under Construction or Conversion. For the PES Program field units' report their workload data to headquarters quarterly on the Port and Environmental Safety/Marine Environmental Response Quarterly Activities Report. The Coast Guard revised the Quarterly Activities Report on October 5, 1983, and required that the revised form be used to report first quarter fiscal year 1984's workload data.

## ACTIVITIES BY NONFEDERAL ENTITIES

In addition to inspections and boardings by Coast Guard personnel, independent third parties perform surveys (inspections) that are accepted by the Coast Guard under agreements between the Coast Guard and these third parties. Two third parties whose inspections the Coast Guard accepts are the American Bureau of Shipping (ABS) and the National Cargo Bureau (NCB).

## American Bureau of Shipping

ABS was created in 1862 as a private, nonprofit ship classification society with the primary function of certifying the soundness and seaworthiness of merchant ships. The Bureau establishes standards known as "Rules" for the design, construction, and periodic inspection of vessels. ABS classes ships (i.e., designates that a ship meets ABS classification requirements) for ship owners so that insurance can be obtained. However, no requirement exists that ships be classed. A ship's classification is based on design review, inspection during construction, and periodic inspections. This classification, which vessel owners pay for, assures owners, shippers, insurance underwriters, and others that a ship is structurally and mechanically safe and fit for its intended service. ABS personnel who inspect and class ships are collectively known as surveyors. ABS surveyors are located in major ports throughout the world.

The Coast Guard has a close working relationship with ABS. The Commandant is a member of the ABS Board of Managers. In addition, Coast Guard representatives are members of ABS committees and subcommittees, such as the Technical Committee that is responsible for developing and modifying the various ABS Rules. ABS' sphere of interest is almost identical to the Coast Guard's except that it has no enforcement powers other than removal of a vessel's classification.

New vessel inspections performed by the Coast Guard and ABS are very similar; both certify that the vessel meets construction standards. The Coast Guard has agreed to accept ABS review of vessel plans and inspection of various hull and machinery items for new construction or modification of U.S. vessels built to ABS classification and Coast Guard certification requirements. This allows vessel owners the option of having inspections of new construction or conversion of vessels, based on federal requirements, performed by the Coast Guard or ABS. However, the Coast Guard still inspects vessels for operating requirements, including fire fighting equipment/components and lifesaving systems, and visibility from the navigation bridge. As of February 28, 1984, 390 vessels including small passenger vessels and barges were under construction or being rebuilt in the United States. ABS inspected 33 percent of these vessels and 88 percent of approximately 40 major U.S. vessels being built overseas.

## National Cargo Bureau

NCB was established in 1952 as a nonprofit organization to perform inspections to ensuring the safe storage, loading, and unloading of cargo and the safety of cargo-handling gear aboard vessels. NCB issues certificates of loading on general cargo vessels, which certify that applicable cargoes are stowed in compliance with hazardous material regulations. In addition, safety regulations govern the loading of bulk grain shipments.

Many shipping companies retain NCB to oversee hazardous cargo operations and some nonhazardous cargo operations, such as grain shipments. The certificates of loading assure owners, shippers, and insurance underwriters that a ship's cargo is properly stowed. Known as surveyors, NCB personnel who oversee the loading of cargo are located in major ports throughout the United States.

The Coast Guard has close ties with NCB. The directorship of the Bureau is composed of representatives of the U.S. government (Commandant of the Coast Guard, Commander of the Military Sealift Command, and a representative of the Maritime Administration) and representatives of the maritime industry including insurance underwriters. Because Coast Guard and NCB inspections of hazardous cargoes are very similar, the Coast Guard has agreed to accept NCB inspections in lieu of its own. Essentially, Coast Guard field personnel generally will not inspect the storage of cargo aboard a ship if a local NCB surveyor has been retained to oversee the ship's hazardous cargo operations. In 1982 the Coast Guard and NCB conducted 11,910 boardings. Of this total, NCB was responsible for 1,264 or 11 percent. In 1983, 8,331 boardings were conducted with the NCB responsible for 1,738 or 21 percent.

#### OBJECTIVES, SCOPE, AND METHODOLOGY

Because of increased congressional and public concern about transportation safety issues, we have undertaken a series of reviews on how various agencies within the Department of Transportation carry out safety enforcement activities.

Our overall objective in this review was to analyze and assess the management of the U.S. Coast Guard's marine safety programs and activities. We directed our attention to the procedures and processes used by the Coast Guard to manage its major maritime safety programs--CVS and PES. The specific questions we addressed during our review were (1) what data does the Coast Guard use to assign staff and how accurate are the data, (2) what data does the Coast Guard use to plan and conduct its inspections, (3) what procedures does the Coast Guard use to oversee inspection activities of third parties, (4) what action, if any, has the Coast Guard taken to improve its training of inspectors, (5) how accurate and reliable is the Coast Guard's Marine Safety Information System, (6) how does the Coast Guard follow up on previously identified U.S. vessel safety-related deficiencies, (7) how does the Coast Guard ensure that vessel boardings meet its intended purpose, and (8) how does the Coast Guard manage its process for assessing and collecting civil penalties when violations are identified. In addressing these questions, we analyzed how the Coast Guard was managing and carrying out its marine safety enforcement responsibilities in these two programs.

We reviewed the laws, regulations, policies, and procedures for (1) inspecting U.S. vessels, (2) boarding and examining foreign vessels, and (3) assessing penalties. We also reviewed the status of agreements and policies concerning the Coast Guard's

delegations to ABS and NCB. In addition, we reviewed reports by the Department of Transportation's Inspector General, public interest groups, and management consulting firms related to these programs.

We interviewed Coast Guard personnel at Coast Guard Headquarters in Washington, D.C., to determine their roles in and responsibilities for program development, implementation, and monitoring. We interviewed Coast Guard personnel at the 1st District Headquarters in Boston, Massachusetts; 5th District in Norfolk, Virginia; 8th District in New Orleans, Louisiana; and 11th District in Los Angeles, California. These districts were selected judgmentally but with the purpose of including U.S. Coast Guard programs at locations that gave us geographical coverage. To ensure that the locations included in our review were representative, we discussed our scope with Coast Guard officials to ensure that the locations selected are typical for their programs. They agreed that our site locations were representative of Coast Guard activities for the CVS and PES programs. However, at their suggestion, we visited the 14th District office in Honolulu, Hawaii, to obtain information on CVS overseas inspection activities. We interviewed Coast Guard personnel at field units in New Orleans, Louisiana; Houston and Port Arthur, Texas; Mobile, Alabama; Norfolk, Virginia; Baltimore, Maryland; Los Angeles and San Diego, California; Boston, Massachusetts; Providence, Rhode Island; Portland, Maine; and Honolulu, Hawaii.

Our approach was to analyze the Coast Guard performance of its CVS and PES program activities in the 12 field units we visited. However, we could not do this at all locations because certain activities were not carried out at all 12. For example, the agreement between the Coast Guard and NCB would not apply to include some ports we visited because the ports had little or no activity related to the agreement. Further, we included some locations only for analysis of specific activities. For example, we went to Honolulu to review certain aspects of the CVS program, such as the delegation to ABS of new-vessel inspection activities. We also did not analyze the Marine Safety Information System in the 8th District because a prototype system was being developed and tested at that location. Therefore, we believe that our conclusions regarding the system may not apply to the 8th District. We limited some of our work at other locations to confirmation of a problem's existence.

We interviewed Coast Guard headquarters and district personnel to obtain information on the civil penalty process at Coast Guard headquarters and at the 1st, 5th, 8th, and 11th Districts. Additionally, we randomly selected 740 civil penalty cases (out of a universe of 5,890 cases), involving port safety, vessel safety, and pollution prevention, that had been forwarded to district hearing offices from 1981 through 1983 for penalty assessment. From the 740 cases, we identified 418 closed cases for analysis of the Coast Guard's civil penalty process. We recorded selected characteristics from each case, including dates of violations,

dates cases were received by program officers, dates cases were forwarded to hearing officers, dates violators were informed of the proposed penalty amount, and dates cases were closed. We also scheduled the amounts of maximum penalties, proposed penalties, assessed penalties, and collected penalties. We examined these cases for consistency in penalty assessment and processing time among districts.

We analyzed Coast Guard reports used to make staffing and planning decisions. We also compared the data shown in the reports to Coast Guard instructions prescribing reporting requirements.

We interviewed ABS and NCB headquarters' officials in New York and surveyors (inspectors) from these organizations in seven port cities. The purpose of these interviews was to determine the working relationships among ABS, NCB, and the Coast Guard and to ascertain what information was being exchanged with the Coast Guard.

We reviewed the Coast Guard's Marine Safety Information System--both the interim and long-range systems. We interviewed Coast Guard headquarters and field personnel to obtain information on the system's design and capabilities. To determine the accuracy of the interim system, we sampled safety enforcement data to determine if they were consistently entered into the system. We did not evaluate the long-range system. Instead, we relied on the results of a Department of Transportation Office of Inspector General's August 1984 report on the planned long-range Marine Safety Information System.<sup>3</sup> Its report findings and conclusions are summarized in chapter 3.

We made the review in accordance with generally accepted government auditing standards. The audit work was done from December 1983 through June 1984.

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<sup>3</sup>Report on Audit of U.S. Coast Guard's Marine Safety Information System, Report No. AD-CG-4-004.

## CHAPTER 2

### OPPORTUNITY TO IMPROVE MONITORING

#### OF MARINE SAFETY ENFORCEMENT PROGRAMS

The maritime industry is experiencing major changes--vessel construction has shifted from the United States to foreign countries, and U.S. ports in competing for the export/import business have seen shifts in their shipping activities. To effectively respond to the dynamic maritime industry, the Coast Guard periodically needs to shift personnel to and from those locations experiencing the most change. We found that Coast Guard field units have reported inaccurate or inconsistent PES workload data. These data are used along with other resource information to decide where PES staff are needed. While we did not identify instances of staffing problems, the Coast Guard could enhance its PES staffing process by improving the accuracy of data currently used in making staffing decisions.

The Coast Guard has attempted to improve the use of its resources and eliminate comparable inspection efforts by accepting the inspections of nonfederal entities. It entered into agreements in 1981 and 1982 with the ABS for the review of new vessel plans and inspection of vessels under construction or modification. The Coast Guard entered into an agreement with the NCB in 1982 for inspections of hazardous cargo. The Coast Guard requires its field units to monitor ABS and NCB activities to ensure that inspections are meeting Coast Guard safety requirements. In 1984 the Coast Guard established a system to oversee ABS activities but had not established a similar system for NCB activities. As discussed in chapter 1, because the Coast Guard and NCB inspections of hazardous cargoes are very similar, the Coast Guard has agreed to accept NCB inspections in lieu of its own. However, since it does not systematically monitor NCB activities, it does not know if NCB is effective in helping the Coast Guard fulfill its safety role and what changes, if any, are needed to these agreements.

The Congress, GAO,<sup>1</sup> and the Department of Transportation have criticized the Coast Guard for the quality of its training of CVS inspectors and not establishing inspector qualification criteria. CVS program managers have recognized the need to improve the quality of personnel and training. In the beginning of fiscal year 1985, a new marine safety training and qualification program was implemented. This new program included developing of standardized on-the-job training requirements and establishing of qualification criteria for CVS inspectors.

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<sup>1</sup>How Effective Is The Coast Guard In Carrying Out Its Commercial Vessel Safety Responsibilities? (CED-79-54, May 25, 1979).

## BETTER INFORMATION CAN IMPROVE STAFFING DECISIONS

The Coast Guard at the program level needs sufficient and accurate data to make sound staffing decisions. Such data help the Coast Guard determine the number and location of needed marine safety personnel and thereby help improve its effectiveness in carrying out its safety mission. Under the PES program the Coast Guard boards U.S. and foreign vessels that enter and leave U.S. ports to ensure compliance with safety and pollution requirements. As the volume of such maritime activities change, Coast Guard personnel must respond. The Coast Guard's staffing decisions are primarily based on historical workload data such as number of vessels entering the port and the authorized number of positions at a location.

The principal report on field units' workload in the PES program is the Port and Environmental Safety/Marine Environmental Response Quarterly Activities Report. According to PES program personnel, the Quarterly Activities Report is the primary data source for resource allocation and budgeting for the PES Program. Data from the report are compared to established mission productivity expectations to measure field units' performance of mission activities. Thus, the Activities Report's data provide a basis for planning and using Coast Guard field personnel in a cost-effective manner when carrying out its safety responsibilities.

The Activities Report is submitted through the districts' Marine Safety Divisions to the Office of Marine Environment and Systems on a quarterly basis. It provides the office with data on such PES activities as the number of ships boarded, oil transfers monitored, cargo transfers monitored, and waterfront facilities inspected. The actual staff hours expended on these activities are also reported. In addition, the Activities Report provides the office with data on such industry activities as the number of ships that entered a port, oil and cargo transfers that occurred, and the number of waterfront facilities in existence. Though this is the primary document on PES workload, information reported by the field units is incomplete, inaccurate, and inconsistent.

To assess the accuracy of this information, we reviewed the Quarterly Activities Reports of 6 field units for fiscal years 1978 to 1983 in the 1st, 5th, and 11th Districts. In addition, we reviewed the reports submitted by the four field units in the 8th District for the first and second quarters of fiscal year 1984. Our review was limited in the 8th District because we wanted to verify only that the problems identified elsewhere also occurred there.<sup>2</sup> In reviewing the Quarterly Activities Reports submitted by the field units, we focused on what appeared to be

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<sup>2</sup>We excluded the San Diego and Honolulu field units because our emphasis at these locations was on the CVS program.

errors. However, we did not attempt to determine the magnitude or extent of the problem. Our review disclosed that 7 of the 10 field units in 4 districts had reported incomplete, inaccurate, and inconsistent data. For example, one field unit's report cited 8,575 spot checks (i.e., walk-throughs) of waterfront facilities for fiscal year 1983. Another field unit in the same district, with a similar number of waterfront facilities, reported 206 spot checks for the same fiscal year.

Our analysis and discussion with field unit personnel showed that the variances are due to different interpretations of the definitions of a waterfront facility by the two field units. The Coast Guard defines a waterfront facility as,

"a facility designated for the handling and storage of and for vessel loading and discharge of any flammable or combustible liquid in bulk and/or any hazardous material."

The first field unit interpreted this definition to include mobile and surveyable facilities<sup>3</sup> while the second one did not. Therefore, the difference was caused, in part, by the units' lack of understanding of the definition.

In another example, we found that one field unit did not report any navigational safety, dangerous cargo, or pollution violation cases for fiscal years 1981 and 1982. However, a field unit official informed us that 95 and 90 violation cases had occurred in fiscal years 1981 and 1982, respectively. He obtained this data by researching Coast Guard files at our request.

Additionally, one field unit's Activities Report for the first quarter of fiscal year 1984 showed that the total number of tank ship oil cargo transfers in its area was 281. However, data we obtained from the local marine exchange showed the actual number of transfers was 439. The same field unit also reported that the total number of tank barge oil cargo transfers was 52. Again, data from the local marine exchange showed the actual number of transfers was 1,080. The differences in reporting, according to the unit's district PES manager, may be due to the preparer's unfamiliarity with the report's instructions.

Coast Guard instructions on the Quarterly Activities Report prescribe the requirements of the report and provide guidance to field units and district offices on how the activity reports are to be compiled and reviewed. Additionally, the instructions require field units to verify the Quarterly Activity Report's data

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<sup>3</sup>A mobile facility is any facility that can readily change locations, such as a tank truck and tank car. A surveyable facility is a facility that handles less than the equivalent of 250 barrels of oil, such as marinas and fuel piers.

and district staff to review the report for accuracy and completeness. During our review, however, we found little quality control, such as review of the data before its was included in the Quarterly Activities Report. Officials responsible for the reports in 2 of the 4 districts, and 4 field unit managers in 4 of the 10 units do not view the report as a management tool for making staffing and planning decisions at their levels. As a result, they were concerned mainly with the need to complete the report and, on the basis of our discussions with them, did not focus on the need for its accuracy.

We did not attempt to specifically (1) determine the magnitude of the errors, (2) quantify their impact, or (3) in some cases, identify the reasons the errors occurred. Nevertheless, the information we obtained suggests that the Quarterly Activities Report is not as reliable as it could be. Therefore, since the Coast Guard uses the report as a tool for resource allocation and budgetary decisions, it needs to assess the accuracy and consistency of the data reported by its field units and take appropriate action to ensure that errors are corrected.

#### MONITORING OF DELEGATIONS TO NONFEDERAL ENTITIES

The Coast Guard has agreements with the ABS to perform certain CVS activities and with the NCB to perform certain PES activities. The objective of these agreements is to make better use of limited Coast Guard resources and eliminate duplicative efforts between the Coast Guard, ABS, and NCB. The Coast Guard retains its responsibility for ensuring that the statutory and regulatory requirements related to these agreements are maintained. For example, under the ABS agreements, ABS is to apply all regulations, interpretations, and policies of the Coast Guard to U.S.-flag vessels. Meeting only ABS' requirements for classification would not normally fully satisfy Coast Guard certification requirements. However, until recently the Coast Guard did not systematically monitor nor have a system to monitor the implementation of these agreements. The Coast Guard initiated steps in the spring of 1984 to establish a system to monitor ABS activities but has not initiated similar action to establish a system to monitor NCB activities. The system should help the Coast Guard improve its monitoring of ABS activities. A similar system should be considered for NCB.

The Coast Guard signed an initial memorandum of understanding with ABS in 1981 and a second memorandum in 1982. These agreements address the basic guidelines for Coast Guard acceptance of ABS inspection tasks associated with new construction or major conversions of U.S. vessels. They allow vessel owners the option of having inspections of new constructions or conversions of vessels performed by the Coast Guard or ABS.

In February 1982 the Coast Guard and the NCB agreed to develop a cooperative enforcement program on vessels loading

hazardous materials. The agreement allows the Coast Guard to accept NCB inspections of the loading and storage of packaged hazardous materials in lieu of its own inspection.

#### Monitoring of activities performed on behalf of the Coast Guard

While the Coast Guard has agreed to accept certain ABS and NCB inspections in lieu of its own, it still has oversight responsibility. Until recently the Coast Guard provided its field units with general guidance on how they were to monitor the ABS and NCB activities. In 1984 the Coast Guard provided specific guidance for its field units to use in monitoring ABS activities. It has not established requirements for monitoring NCB activities.

#### ABS monitoring

In 1982 the House Committee on Merchant Marine and Fisheries, issued a report on Committee hearings held on the disappearance of the U.S. vessel, SS Poet. One of the Committee's recommendations was that

"The Coast Guard should formulate written procedures for its oversight of inspection functions delegated to the ABS and other classification societies."

Additionally, the memorandum of understanding with ABS and the subsequent implementing Coast Guard instructions state that the Coast Guard is to oversee ABS activities to ensure that regulatory and statutory requirements are met. Eight of 12 field units we visited did not have formal oversight programs; the ninth unit implemented an oversight program in November 1983.<sup>4</sup> The three remaining units did not have any ABS activities.

In May 1984 the Coast Guard developed guidelines for establishing formal oversight programs at the field level of vessel plan review and inspection conducted by ABS. Under these guidelines, field units are responsible for developing and implementing formal and effective local oversight programs. To allow flexibility in conducting oversight inspections and distributing of resources, the guidelines do not prescribe specific requirements for local oversight programs. However, the guidelines do include a recommendation that an overall average of 10 percent of ABS' inspection workload be checked for oversight purposes. This percentage does not have to be applied equally to each vessel, but it should be an average value for each field unit. Additionally, the guidelines state that the items to be inspected for oversight and the extent of the inspections should be of sufficient variety

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<sup>4</sup>The Coast Guard has defined a formal oversight program as one that is written and issued by the field office Commander as a local directive or guide.

and depth to determine that the applicable requirements of all laws and regulations are satisfied. In addition, the guidelines require field units to provide information on time spent monitoring ABS activities.

In July 1984 the Coast Guard provided further guidance to field units on the development of local oversight plans. This guidance consisted of a sample local oversight program for ABS inspections. Major components of this sample program include the establishment of an oversight coordinator, oversight goals, planning meetings, scope of inspections, and reporting.

#### NCB monitoring

Monitoring the transfer of dangerous cargo such as explosives and the storage of cargo is important. Improper transfer of cargo could result in a spill or leakage of material that can cause death or injury to people and the environment around the vessel. Improperly stored cargo can cause a vessel to capsize. Therefore, the Coast Guard has responsibility for monitoring these activities. As discussed in chapter 1, the Coast Guard accepts NCB inspections but retains oversight responsibility.

According to the Coast Guard instructions implementing the Coast Guard/NCB agreement, its field units are required to coordinate their dangerous cargo boarding activities daily with local NCB surveyors so as not to duplicate each others' efforts. Additionally, the Coast Guard field units are to provide oversight as necessary, of NCB activities, including spot check verification. The instruction further states that

"such oversight is considered desirable and necessary by both the Coast Guard and the NCB if the maximum benefit is to be derived from this joint effort."

On the basis of our discussion with headquarters officials, the Coast Guard relies on its field units to perform such oversight of NCB as they believe is necessary. Therefore, it has not provided similar guidance as was recently done for monitoring ABS activities.

During our review we looked at how six field units had implemented the Coast Guard's instructions.<sup>5</sup> Since we were not present when NCB activities were being performed, we discussed Coast Guard's oversight with officials in the field units. One field unit's port operations chief said that his office performed

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<sup>5</sup>We excluded four field units that we visited because they had few or no NCB activities. Since we identified inconsistent monitoring activities in two other field units we excluded another unit in their same district. We excluded another unit because our focus at that unit involved only CVS and ABS activities, not PES and NCB activities.

oversight of NCB activities whenever it was possible. Port operations chiefs at two other field units informed us that their offices performed oversight of NCB activities only if Coast Guard personnel were aboard a vessel performing some other enforcement activity. They would not board a vessel only to oversee NCB activities. Three other field units also used similar judgment in their oversight of NCB activities. These six units had not developed any systematic process for overseeing NCB activities.

While we did not identify any problems associated with the field units' monitoring activities of NCB nor the quality of the NCB inspections, the Coast Guard could improve the monitoring of NCB activities. Providing more specific guidance to its field units, as is done under the ABS program, would accomplish this. Although flexibility should be permitted, field units could report on a recommended percentage of NCB inspections overseen by the Coast Guard and on the unit's time spent monitoring NCB activities. Such reports might identify possible problems with NCB activities before an accident occurs.

#### ACTION BEING TAKEN TO IMPROVE THE CAPABILITIES OF CVS INSPECTORS

Our 1979 report, the Congress, and the Department of Transportation have identified problems with the quality of CVS inspectors, including their training.<sup>6</sup> Recognizing the need to improve the quality of its inspectors, the Coast Guard has developed a new marine safety training and qualification program. Implemented on October 1, 1984, this new program should address many of the quality problems.

#### Training

The Commandant of the Coast Guard stated during House appropriation hearings for fiscal year 1985 that

"there is no hard and fast rule as to how long it takes to become a qualified commercial vessel safety inspector."

A Coast Guard safety manual states that it takes about 3 years to become a qualified marine inspector. Such determinations are left to the discretion of a field unit's commanding officer.

The training program develops inspectors through resident courses, postgraduate training, industry training, video tapes,

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<sup>6</sup>The problems identified related to the CVS inspectors and not PES surveyors. Therefore, PES training is not discussed in our report. In addition, the Coast Guard has taken similar steps to improve PES training.

and on-the-job training. A large part of the marine safety training and qualification activities are decentralized. At the beginning of a first field unit tour, officers attend the Marine Safety Basic Indoctrination course. This mandatory 12-week course covers the various marine safety activities. Other than this course each field unit is responsible for training and determining qualifications of first-tour officers. Much of the training by field units is on-the-job training. Because the Coast Guard lacked a standard on-the-job training package and qualification criteria, individual field units developed and implemented training requirements.

### New initiatives

The Coast Guard recently completed a 2-year project to develop a new marine safety training and qualification program. It implemented this new program at the beginning of fiscal year 1985 to alter training and qualification practices. One change is the establishment of uniform standardized on-the-job training and on-the-job qualification requirements.<sup>7</sup> These requirements are prescribed in the newly created Marine Safety Training and Qualification booklets. These booklets are divided by job specializations called "areas of designation." For example, areas of designation within a field unit's Inspection Department that require mandatory participation by trainees are the following: Hull Inspector, Machinery Inspector, and Small Vessel Inspector. Upon completion of the on-the-job training and qualification requirements for an area, a letter of designation is prepared attesting to a trainee's qualification for a specific area of designation.

Another change brought about by this program is the selection of three field units as "training ports." The field units selected are New York, New York; New Orleans, Louisiana; and Seattle, Washington. These ports are responsible for conducting intensive training for personnel on initial assignment in CVS inspections. The length of training at a training port is 18 months. According to the Coast Guard, approximately 80 percent of the inspection trainees will be assigned to inspection positions at field units other than training ports upon completion of training. The remaining 20 percent will be assigned to non-inspection activities such as investigation or port operations.

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<sup>7</sup>According to a Coast Guard safety manual, on-the-job training is the trainee's observation of a qualified person's performance of a specific task and/or performance of a specific task. On-the-job qualification is the trainee's demonstration to a qualified person that he or she has successfully mastered all the knowledge and skills required to do the job.

## CONCLUSIONS

The PES program management relies on field staff to report both the total number of PES-related maritime activities that occurred in their area and the actual work they performed in relation to total activities. This information is reported on the Quarterly Activities Report. The Coast Guard uses the information from this report to make staffing decisions based on the scope of enforcement by individual field units. Using a judgmental sample of data in 10 field units, we found the information shown on the Quarterly Activities Report contained some incorrect data. This occurred in some cases because field personnel misinterpret reporting definitions or are unfamiliar with the QAR's instructions. Although the report's instructions require both field unit and district staff to verify the Activities Report's information, little quality control occurs at these levels. In addition, some officials explained that they were concerned about completing the report and did not understand its use--assisting the Coast Guard in making resource decisions. As stated previously we did not identify instances of poor staffing decisions. However, we believe that the Coast Guard could improve the accuracy of the data that its field units submit.

To improve its use of Coast Guard resources and eliminate duplicative inspection efforts, the Coast Guard has agreements with ABS and NCB to perform certain marine safety activities on its behalf. Despite these agreements the Coast Guard still retains its statutory and regulatory responsibilities for the inspections delegated of these activities. Our review did not identify any problems with the inspections ABS and NCB perform. The Coast Guard provided guidance to its field offices on monitoring ABS and NCB activities but relied on their discretion on how to implement it. However, the Coast Guard recently specified, in detail, the activities to be followed in monitoring ABS. In May and July 1984, the CVS program management issued guidance to its field units to establish oversight programs of ABS activities. This should enable the Coast Guard to better monitor ABS activities. The existing guidance for NCB monitoring is general; and, as a result, the field units included in our review perform the mission differently. Although we found no problems to have occurred to date, we believe guidance, similar to that provided under the ABS program, would put the Coast Guard in a better position to know whether NCB inspections are being performed in accordance with its statutory and regulatory requirements.

The Coast Guard has recently implemented several initiatives to improve the capabilities of its CVS inspectors. These initiatives included the establishment of training ports and development of uniform on-the-job training and on-the-job qualification requirements. Although it is too early to assess these initiatives, we believe they have the potential to address the qualification problems identified previously by the Department, GAO, and the Congress.

## RECOMMENDATIONS TO THE SECRETARY OF TRANSPORTATION

Our audit focused on the Coast Guard's management of the safety programs. Based on our analysis of the Coast Guard's use of workload information to assess staffing needs and management of delegations to nonfederal entities, we recommend that the Secretary of Transportation direct the Commandant of the Coast Guard to take the following actions to enhance its program management:

- Issue guidance to field units prescribing methods to verify the accuracy and completeness of the Quarterly Activities Report (such guidance could include a requirement that field units and district staffs selectively test and ensure that the data reported are accurate).
- Determine the needed oversight of the NCB's activities performed on behalf of the Coast Guard and develop appropriate field unit procedures and reporting requirements, similar to that being planned for ABS.

## AGENCY COMMENTS AND OUR EVALUATION

In commenting on our draft report (see app. I, p. 42), the Department said that the Coast Guard's PES program has been aware of the inaccuracies and inconsistencies in the field reporting on the Port and Environmental Safety/Marine Environmental Response Quarterly Activities Report and has taken steps to correct these weaknesses. The Coast Guard has formed a permanent Quarterly Activities Report review group to evaluate incoming Quarterly Activities Reports for data accuracy, clarity of completion instructions, and value of the information collected. Also, the importance of accurate reporting on the Quarterly Activities Reports is now being stressed in its resident marine safety training programs. In addition, the Quarterly Activities Report review requirements for field units and districts will be strengthened in a planned change to Coast Guard instructions concerning completing the Quarterly Activities Report.

The Department said that Coast Guard oversight of NCB activities is necessary. To strengthen field oversight and ensure consistency, specific guidance on the percentage of NCB inspections required to be overseen and procedures for improving its performance will be added, if necessary, to the Coast Guard instructions concerning NCB assistance.

The actions being taken, including changes to the relevant Coast Guard instructions, are responsive to our recommendations. The planned changes, if properly implemented, have the potential to address the problems that we identified in this chapter.

## CHAPTER 3

### RELIABILITY OF INFORMATION AFFECTS

#### ENFORCEMENT ACTIVITIES' EFFECTIVENESS

The Coast Guard's long-range Marine Safety Information System is to be its primary information system for planning and directing its safety enforcement efforts. The system was originally scheduled for implementation by 1981 but, because of delays, is now planned for 1986. While the long-range system was under development, the Coast Guard used an interim system that contained data related to vessel boarding activities and some results of the Coast Guard's vessel inspections. One part of the long-range system, that contained data maintained in the interim system, became operational, replacing the interim system.

In 1984 the Department of Transportation's Office of Inspector General (OIG) issued an audit report on the long-range Marine Safety Information System. The audit report identified problems with the project to develop the system, such as not defining the users of the system nor the purposes for which they would use the system. The report stated also that the users of the system were dissatisfied with installation delays.

The long-range Marine Safety Information System depends upon many different types of data to document enforcement activities. For example, data on vessel arrivals and boardings, and outstanding safety-related deficiencies are required input for both the interim system and long-range Marine Safety Information System.<sup>1</sup> In four field units of two districts, we found instances where the Coast Guard did not enter such enforcement-related information into the interim Marine Safety Information System accurately and consistently.<sup>2</sup> When the interim system was replaced, the data in the interim system were transferred, without correction, into the long-range system. As a result, any inaccurate data still exist.

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<sup>1</sup>During our review only the interim system was being used to document enforcement activities. Subsequently, a component of the long-range system became operational, thereby replacing the interim system.

<sup>2</sup>We excluded (1) four field units in the 8th District because the Coast Guard is developing and implementing a prototype marine information system (therefore the field units may not be typical) and (2) three field units in two districts because our emphasis at those locations was on the CVS program. We limited our review of one unit to looking only at its operating procedures. We had found problems in two other field units in that district and wanted to determine if problems identified in the district could occur in the one unit as well.

Also, the Coast Guard has not yet corrected the problems that caused the data entry problems.

When a safety-related deficiency is identified, the Coast Guard may issue a written notification that a U.S. vessel needs to correct a deficiency within a prescribed time period.<sup>3</sup> The field unit issuing the notification is responsible for following up to ensure that noted deficiencies are corrected. To follow up on the notification, the Coast Guard enters the notice into the Marine Safety Information System and places a copy of the notice in a manual "tickler file."<sup>4</sup> During our review, however, we found that 10 of 11 Coast Guard field units we visited (in 5 districts) did not always follow up on outstanding inspection deficiencies.

MARINE SAFETY INFORMATION SYSTEM  
MAY NOT ADEQUATELY SUPPORT  
ENFORCEMENT EFFORTS

The major objective of the Marine Safety Information System is to improve the quality of the Coast Guard's marine safety enforcement programs by providing field units with needed enforcement information. According to the Coast Guard, the system will provide inspectors in every port with the complete history of examinations, boardings, inspections, casualties, and violation histories of any vessel that has entered the United States. Through vessel histories, including outstanding deficiencies, the Coast Guard can better identify which ones should be boarded, thereby focusing on potentially unsafe vessels. However, the Marine Safety Information System's use may be diminished because it contains inaccurate information; and, according to the OIG, the long-range system may not meet user needs.

Marine Safety Information System

As a result of a series of oil tanker accidents in and near American waters in 1977, the President issued a Presidential Management Initiative to control the problem of oil pollution of the oceans. Included in this initiative was a recommendation that the Coast Guard develop a Marine Safety Information System. On October 17, 1978, this recommendation was approved with the passage of the Port and Tanker Safety Act of 1978. To comply with the act, the Coast Guard (1) established an interim Marine Safety

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<sup>3</sup>The Coast Guard Marine Safety Manual defines a deficiency as the "failure to meet any of the minimum requirements of vessel inspection laws and regulations."

<sup>4</sup>A tickler file is a file for prompting attention to expiration dates.

Information System by upgrading an existing information system (Port Safety Reporting System) and (2) expanded the scope of a planned Vessel Inspection Information System, renaming it the long-range Marine Safety Information System.

Prior to its upgrading, the Port Safety Reporting System provided information to PES field units on the history of vessels entering their ports. The Coast Guard's interim Marine Safety Information System was enhanced to update vessel boarding histories and permit additional data elements, such as U.S. vessel inspection information, to be included.

The long-range Marine Safety Information System, as currently planned, will consist of nine modules or components. These components are

- vessel documentation, which will store information on vessel owners, liens, and mortgages;
- vessel inspection, which will contain detailed information on U.S. vessels, such as vessel size and inspection history;
- port safety, which will store the history of vessels' boardings and examinations;
- marine casualty investigation, which will store accident investigation information;
- marine pollution, which will record pollution incidents;
- review of the vessel construction plan, which will record and track the status of new vessel plans under review of the Coast Guard;
- vessel inspection during its construction, which will record the progress of new vessel construction;
- offshore pollution funds management, which will track funds used to clean-up pollution incidents involving vessels; and
- marine violation, which will follow violation cases.

Currently, the Coast Guard is reevaluating the need for the entirety of the nine modules in the Marine Safety Information System. It has authorized the implementation of the first five modules and, on the basis of its evaluation, will decide whether or not to implement the remaining four.

Inaccurate data in interim system  
transferred to the Marine Safety  
Information System

The interim Marine Safety Information System was a computerized information file that contained inspection, violation, pollution, and casualty data for foreign and U.S. vessels boarded and inspected by the Coast Guard. The interim system primarily provided field units with data on Coast Guard safety enforcement activities, such as the results of vessel boardings and inspections.

During our analysis of the the interim system at four field units we visited (in two districts), we found that inaccurate and inconsistent data have been entered into the system. Moreover, these data were transferred into the port safety component of the long-range Marine Safety Information System. Although we do not know the extent of the problems Coast Guard-wide nor can we project our findings to other locations, the four field units we visited have not adequately controlled the data being entered into the system.

In our 1979 report on the CVS Program,<sup>5</sup> we found that the interim system was not always properly used and the information was not always accurate, complete, or current. In one district, for example, we observed 14 vessel boardings by the Coast Guard. However, the results of four boardings or even their occurrences were not entered into the system as required; therefore, the information about four boardings was not retrievable from the system by future system users. In two other boardings, which had been entered into the system, pollution violations were identified. However, the subsequent entries into the system relating to these boardings do not list the violations. During our analysis of other boarding files and system printouts, we found instances in which examinations had been performed and deficiencies found but the type of examination or deficiency was not recorded. Thus, an inspector at another port could not tell what type of deficiency existed unless he contacted the port where it had been found.

During this review we judgmentally selected transactions to determine if (1) boarding and inspection activities were being entered into the system and (2) the data entered were accurate. Our analysis showed problems in both situations at all four of the field units we visited. However, we did not determine the magnitude of these problems because our effort focused on determining if a control existed to prevent these situations from occurring. If such a control did not exist, then our effort focused on determining if problems occurred.

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<sup>5</sup>How Effective Is the Coast Guard in Carrying Out Its Commercial Vessel Safety Responsibilities? (CED-79-54, May 25, 1979.)

The Marine Safety Information System Users Guide required field units to update the system's boarding/inspection histories of all vessels including those that were not boarded/inspected. We tested this at only two of the four field units we visited and found that they were not consistently entering this vessel information. For example, at one field unit we checked whether reviewed vessel data were entered for 50 vessels that arrived in the unit's area in November 1983. Data on 28 of the 50 vessels were not entered into the system. At another field unit we reviewed vessel data entries for a 5-month period ending February 1984. Data on 19 of the 49 vessels that arrived in the unit's area during that period were not entered into the system. We used a 5-month period so as to include 49 vessels since vessel activity at this unit was less than the other unit's.

As another example, the instruction implementing the NCB agreement states that field units shall routinely enter into the Marine Safety Information System each scheduled vessel boarding by the NCB. Two of the four field units we visited, however, were not complying with the instructions. One field unit did not consistently enter the NCB information and the second did not enter the information at all. A third field unit entered NCB vessel boardings when no such boardings occurred. In this case the field unit's staff mistakenly used a data entry code reserved for NCB vessel boardings to record the field unit's monitoring the transfer of liquid cargo from barges. Because the information was not readily available at these three units, we did not analyze the number of NCB vessel boardings that were or were not properly entered into the system. We did not analyze this at the fourth unit.

In addition, one field unit we visited was not entering the results of Coast Guard inspections of U.S. vessels into the system. When questioned on these omissions, the field unit's Inspection Chief said that he was unaware that inspection results were to be entered into the interim Marine Safety Information System. (See page 26 for discussion of other inspection data entry problems.)

According to the Marine Safety Manual,<sup>6</sup> field units are responsible for the integrity, accuracy, and currency of the interim Marine Safety Information System. Because there is no specific headquarters' guidance, the field units decide themselves how best to control the data.

Field units used the interim system in deciding which vessels to board. For example, the PES program established standard vessel boarding requirements in October 1983. The emphasis of these requirements is for the field units to focus their boarding

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<sup>6</sup>The Marine Safety Manual is the primary policy and procedures manual for the Coast Guard's marine safety programs.

efforts on high priority vessels. Vessels are designated high priority if they meet certain prescribed criteria, such as no Coast Guard inspection or examination for 12 months or first port on maiden voyage to the United States. Field units should determine if a vessel meets the criteria, and should be boarded, by reviewing the vessel's history contained in the Marine Safety Information System. However, because vessel enforcement information in some locations is inconsistently and inaccurately entered into the system, field units may make enforcement decisions without complete information.

While we did not determine all the reasons for the errors, the safety manual gives field units the responsibility for ensuring the integrity, completeness, and accuracy of data entered into the interim system. The four field units we visited had not established adequate procedures for meeting this requirement. In discussing our findings with the field units' officials, they were not able to explain why the data were unreliable. Without specific guidance and oversight from Coast Guard headquarters, the problems identified in the interim system could continue as the long-range system becomes operational. Prevention of erroneous data is the most important function of data reliability. Without more stringent front-end control to better ensure data reliability, this problem will continue.

Inspector General's review of the  
long-range Marine Safety Information  
System

In August 1984 the Department of Transportation's OIG reported on the development of the Marine Safety Information System.<sup>7</sup> The objectives of its review were to assess the Coast Guard's efforts to plan, develop, and install the long-range system.

The report stated that the long-range Marine Safety Information System project had not attained its objectives even though the Coast Guard had already expended about 10 years and approximately \$13 million on its development. Specifically, the Coast Guard had not clearly defined who would use the system and for what purposes. The Coast Guard also did not use a valid automated data processing systems plan and life cycle cost estimates to determine if the Coast Guard could afford to develop a system having the required levels of performance with available resources. The Inspector General estimated that the total developmental cost of the Marine Safety Information System to be \$33 million, \$9 million more than the Coast Guard had projected.

The Coast Guard concurred with the Inspector General's findings and recommendations.

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<sup>7</sup>Report on the Audit of the United States Coast Guard's Marine Safety Information System, Report No. AD-CG-4-004.

OUTSTANDING INSPECTION DEFICIENCIES  
ARE NOT FOLLOWED UP

During any inspection or examination of a U.S. vessel or its equipment, the Coast Guard may find deficiencies that cannot be corrected immediately. In those cases the Coast Guard issues a Notice of Merchant Marine Inspection Requirements (Form CG-835) to the vessel's master. This notice describes the nature of the deficiency and specifies a time period for correcting the deficiency. The deficiencies described in the notice may range from minor to major items that fail to meet minimum safety requirements. The notice may require immediate repair or provide several weeks for the deficiency to be corrected.

The Marine Safety Manual assigns to the field unit that issues the notices the primary responsibility for taking all necessary steps to gain a vessel's compliance with inspection requirements within the specified time. This involves notifying the vessel owner, by letter, of outstanding deficiencies and following up with the owner to determine if the deficiencies have been corrected. Additionally, the issuing unit is required to notify other field units of the vessel's deficiencies if that vessel will be entering other ports. This latter requirement can be met by entering information on the outstanding deficiencies into the vessel's history contained in the interim, and subsequently the long-range, Marine Safety Information System.

We found that 10 field units in 5 districts were not regularly following up on outstanding inspection deficiencies to ensure that they are corrected in a timely manner.<sup>8</sup> The lack of follow-up was due primarily to field units' either not entering the information into the interim Marine Safety Information System or not having manual tickler files. We reviewed all identified outstanding deficiencies at six of the units. At four units we did not review their follow-up procedures because the deficiency notices were not centrally located or could not be easily reviewed.

--We found that 4 of the 10 units were not consistently entering the outstanding deficiency data into the interim system. For example, 1 field unit had 17 outstanding deficiencies on 5 vessels but failed to enter the information into the interim system. A second field unit had 20 outstanding deficiencies on 1 vessel but again did not enter the information into the interim system. A third field unit issued 25 deficiency notices on vessels; however,

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<sup>8</sup>One field unit in the 8th District was not included in our review because we found problems at three other units in the district and therefore did not believe additional work was needed. Another field unit was reviewed only to assess their follow-up procedures and not the adequacy of their follow-up.

18 of these were not entered into the system. Finally, the fourth field unit did not enter into the interim system 40 of the 50 deficiency notices it issued. Coast Guard officials were aware that notices of deficiencies were not being entered in the interim system either at all or in a timely manner. However, they could provide no reasons why this occurred.

--Five of the 10 field units were not adequately following up on outstanding deficiencies. At the time of our visit, 1 field unit had not followed up on 39 of the 55 deficiency notices it issued that were overdue by at least 3 months. A second field unit had not followed up on 13 of the 40 deficiency notices that it had issued which were overdue. At the time of our visit, a third field unit had 2 vessels with 24 outstanding deficiencies, 8 of which were 20 days overdue. Two branch chiefs at units we visited were unaware of the overdue outstanding deficiencies until we brought the overdue notices to their attention. However, management officials at two of the three field units informed us that clerical staff problems, such as the lack of staff or staff's inattention to requirements, caused the lack of follow-up on outstanding deficiencies.

--Seven of the 10 field units were not maintaining tickler files. Without such files they could not ensure that systematic follow-up had been performed. We were informed by officials in the Office of Merchant Marine Safety that field units should have tickler files established. These files would prompt the inspection personnel's attention to pending expiration dates, thus providing adequate follow-up of outstanding deficiencies. In discussing the lack of a tickler file with officials in one field unit, they agreed that such a file should be maintained. They then told us that they would establish one.

The Coast Guard relies on its field staff to follow up on outstanding safety deficiencies. However, the Coast Guard has no mechanisms in place to ensure that (1) deficiencies are entered into the interim system and (2) follow-up action on recorded deficiencies is taken.

### CONCLUSIONS

The Coast Guard needs accurate and complete information to successfully perform its safety enforcement activities. Without such information the effectiveness of its enforcement activities can be negatively affected.

The primary purpose of the interim, and subsequently the long range, Marine Safety Information Systems is to provide complete and accurate information to Coast Guard field units on the enforcement history of all U.S. and foreign vessels that enter U.S. ports. The PES program use this data to establish vessel

boarding requirements. The enforcement objective of these requirements is to focus field units' boarding activities on those vessels that repeatedly fail to comply with Coast Guard regulations. Selection of these vessels is based on information contained in the interim and long-range Marine Safety Information Systems. However, this information is not always accurate. We did not determine all the reasons the field units' inaccurately or inconsistently entered data; but, in our opinion, the lack of quality control procedures over entry of data into the interim and long-range systems contributed to these problems. Such procedures are a key factor in ensuring data quality.

Follow-up on notices of outstanding deficiencies is not as effective as it could be. A field unit that issues a notice is responsible for following up to ensure that the deficiencies are corrected in a timely manner. However, 10 field units in 5 districts are not following up on all notices as required. As a result, deficiencies have not been followed up on in some cases 3 months after the notices' expiration date. We believe that the value of these notices to enforce compliance to Coast Guard regulations could be enhanced through improved follow-up and entry into the system. The field units could be reviewed by the district marine safety division that oversees the field units.

Without assurances of quality data, the long-term system will not be as effective an enforcement tool, as it otherwise could be for the Coast Guard. The Coast Guard uses the long-range system to identify possible unsafe vessels for boarding and for follow-up on outstanding vessel deficiencies. Therefore, the data entered into the system impacts on the effectiveness of the Coast Guard's PES and CVS programs.

#### RECOMMENDATIONS TO THE SECRETARY OF TRANSPORTATION

Our audit focused on the Coast Guard's management of the safety programs. Based on our analysis of data entered into the Marine Safety Information System and follow-up actions taken on outstanding deficiencies, we recommend that the Secretary of Transportation direct the Commandant of the Coast Guard to take the following actions to enhance its program management:

- To the extent that the Coast Guard determines necessary, it should correct data base deficiencies in the port safety module and establish procedures to ensure that all future required data are entered accurately and consistently into the long-range Marine Safety Information System.
- Establish procedures for the districts' marine safety divisions to periodically review the field units' processing of outstanding vessel deficiencies to ensure that they are following up and that corrective action is taken.

## AGENCY COMMENTS AND OUR EVALUATION

In commenting on our draft report (see app. I, p. 42) the Department said that since January 1985 the Coast Guard has systematically spot-checked MSIS vessel histories against violation reports and communicated disparities to districts and in turn to field units. In addition, port safety module data are being cross-checked with parallel data in the Quarterly Activities Reports. Based on results of these various checks, the Coast Guard will determine if general procedures to ensure that all required data are entered timely and accurately into the Marine Safety Information System should be established.

The analysis being performed by the Coast Guard has the potential to identify the extent of problems that we identified with the Marine Safety Information System. Further, the establishment of procedures, if warranted, is responsive to our recommendation. However, we identified errors in the interim system prior to January 1985 that were transferred into the port safety module of the long-range system. These errors still need to be corrected. Therefore, we believe that the Coast Guard, as part of its analysis, also should identify and correct any previous errors that were transferred into the long-range system.

With respect to the tickler file used to identify follow up on outstanding deficiencies, the Department said that the vessel inspection module of the Marine Safety Information System--deployed in October 1984--has an automatic tickler file capability. This tickler file capability reminds commanding officers when inspection compliance dates have passed. In addition, outstanding deficiencies will appear in the Marine Safety Information System port safety module by September 1985. Also, the Department said that the Coast Guard is adding outstanding deficiency follow-up to checklists used by District Inspectors. Further, follow-up on outstanding deficiencies will be a continuing item of discussion at the Coast Guard's District Commander conferences.

We believe that the proposed actions on the Coast Guard's follow-up on outstanding deficiencies have the potential to correct the problems we identified.

## CHAPTER 4

### ANALYSIS OF VESSEL EXAMINATION

#### AND CIVIL PENALTY PROCESSES

The Coast Guard boards vessels under the PES program to examine them for compliance with safety and pollution prevention regulations. These examinations are conducted by boarding teams at the field level, using vessel examination checklists. However, the Coast Guard lacks a standard examination checklist that contain all the same examination items. Instead, the checklists are developed by the individual field units. As a result of the inconsistency of checklists among field units, the Coast Guard cannot be assured that field units inspect all key safety and pollution prevention requirements identified by the Commandant.

The civil penalty process is a major enforcement tool of the Coast Guard that can help to bring about correction of safety-related problems, thereby hopefully improving vessel safety. Differences in timeliness of processing violation cases and in the amount of penalties for similar classes of cases exist between Coast Guard districts. Until recently the Coast Guard did not collect and analyze data to determine the extent of, or reasons for, these variances. Collecting such data will help the Coast Guard to ensure that its civil penalty process is being administered effectively and that it serves as an effective enforcement tool.

#### VESSEL EXAMINATIONS SHOULD BE CONSISTENT AND SHOULD INCLUDE ALL REQUIRED ITEMS

The Coast Guard boards both U.S. and foreign-flag vessels to examine them for compliance with navigation safety, pollution prevention, and other safety requirements. In addition, Coast Guard personnel monitor the transfer of cargo to ensure that regulations are being followed and that such transfers are made safely. These personnel also annually examine foreign vessels entering U.S. waters to check such items as vessel operating certificates, operating licenses, and records documenting a vessel's ability to operate safely. Additionally, these examinations verify that vessels are equipped with such components as navigation safety equipment and marine sanitation devices.

Various vessel boarding instructions and regulations provide criteria for examinations and monitoring activities. Locally prepared checklists used in examinations are inconsistent and have not been assessed by Coast Guard headquarters to ensure that they include all key items required to be examined. The Coast Guard could improve its boarding activities by using a standardized checklist that follows the intent of the Commandant instruction.

Local checklists used in examinations  
are inconsistent or incomplete

On the basis of their interpretations of available guidance, local commanders have developed checklists to provide detailed instructions to boarding teams for conducting examinations. These checklists generally contain a reference to the source of the safety or pollution prevention requirement, such as the Code of Federal Regulations. The checklists also contain a brief statement as to what the boarding team should look for and a space for marking off items as they are examined.

We reviewed all checklists used by 10 field offices in 4 districts<sup>1</sup> and found that the lists vary significantly as to the number and types of items to be examined. Moreover, the Coast Guard has not reviewed these lists to ensure that they contain and are consistent with all the safety and pollution prevention items required in the Code of Federal Regulations, Coast Guard instructions, and the Coast Guard Marine Safety Manual. In performing examinations of vessels, the Coast Guard relies on boarding teams to check vessel components, listed on the checklists, for compliance.<sup>2</sup> These checklists serve as guides for vessel examinations. The teams complete the checklists to document the results of their inspections. The completion of the checklist does not necessarily mean that those items not specifically listed on the list were not inspected. However, the checklist is the only means that the Coast Guard has to identify the items the boarding teams included in their inspections.

We prepared a composite list of the checklists from the 10 field units. This list includes 34 items, each of which appears on at least 1 of the 10 checklists reviewed. In reviewing these checklists, we did not evaluate the importance of the items in the Coast Guard regulations and instructions. The table below shows the number of our composite items included on each checklist:

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<sup>1</sup>The Honolulu field unit was excluded because our emphasis was on the CVS program. One unit in the 8th District was not included both in an effort to reduce our work and since we had included three units in the district.

<sup>2</sup>The boarding teams usually consist of two to three enlisted personnel. These personnel perform other missions. Thus, their daily activities may involve conducting waterfront inspections, cargo inspections, and oil spill clean up in addition to vessel examinations.

Composite of Field Unit Checklist Items

<u>Coast Guard District</u> <u>Field Unit</u>	<u>Number of items from</u> <u>composite checklist</u>
<u>1st District</u>	
Boston, Mass.	30
Portland, Maine	29
Providence, R.I.	32
<u>5th District</u>	
Baltimore, Md.	26
Hampton Roads, Va.	23
<u>8th District</u>	
Mobile, Ala.	26
New Orleans, La.	27
Houston, Tex.	27
<u>11th District</u>	
Los Angeles, Calif.	28
San Diego, Calif.	23

As shown in the table, the checklists vary as to the number of items required to be examined. The boarding teams indicate by the completion of their local checklist that they look at different safety items.

As a result, the Coast Guard does not know if the boarding teams are complying with all Coast Guard instructions and regulations. We found inconsistencies among the 10 checklists for 4 of the 6 regulations that we reviewed. There was consistency among the checklists for the 2 remaining regulations. For example, one regulation requires that vessel operators conduct tests of five major equipment components within 12 hours before the vessel enters or leaves a U.S. port. The Coast Guard boarding teams are to verify that these items were tested when they board a vessel for examination of compliance with navigation safety regulations. This verification is usually made by reviewing the vessel log in which such activities are recorded. We found that 7 of the 10 field units' checklists correctly listed all 5 items. Another checklist cited four items, and two other checklists did not specify which components were to be tested. Therefore, Coast Guard boarding teams, using the checklists, would not necessarily test the same components.

A second regulation requires that all vessels of 10,000 gross tons or more have a second independent radar system. Additionally, the regulation states that for tankers, 10,000 gross tons or more, this dual radar system must have a short- and long-range

capability. We found that nine of the checklists included the requirements of this regulation. However, one checklist omitted part of the regulation regarding short- and long-range capabilities.

A third regulation requires that self-propelled vessels (except public vessels) of 10,000 gross tons or more carrying oil or any hazardous material and operating on the navigable waters of the United States be equipped with an automatic radar plotting aid that:

- complies with International Maritime Organization standards,
- provides both visual and audible warnings of obstructions, and
- has a permanently affixed label containing specified information on the manufacturer and performance criteria.

Of the 10 checklists we reviewed, 9 required the boarding team to verify that the vessel had an automatic radar plotting aid. In addition, two of the nine checklists required the team to check whether the plotting aid provides for both audible and visual warnings, and four of the nine checklists required a check of the label to ensure that it contained the required information.

The fourth regulation requires that each vessel entering a U.S. port must have one of the following electronic position fixing devices: (1) Loran C receiver, (2) satellite navigation receiver, or (3) an alternative system approved by the Coast Guard. Of the 10 checklists, 2 checklists cited all 3 devices. Four checklists cited only the Loran C and the satellite navigation receivers; two checklists cited only the Loran C and an alternative system. Additionally, one checklist cited the Loran C receiver only and the last checklist included only the statement "Electronic position fixing device."

Although we would expect the boarding teams to use their judgment when carrying out inspections, the Coast Guard regulations and instructions should serve as a minimum requirement during inspections. Deviations if authorized, such as excluding some items or including others, should be documented.

Boarding team members are assigned at one location for a 3- to 4-year period. Because of personnel rotations, we could not generalize what boarding teams examine except through a review of their checklists. In discussing the issue of boarding team activities with personnel in charge at the field units, we were generally told that the lists developed were based on the unit's interpretation of the Coast Guard instructions.

Boarding examinations requirements  
are in Commandant instructions,  
Code of Federal Regulations, and  
Coast Guard safety manual

Recognizing that vessel examinations differed among Coast Guard locations, in October 1983 the Commandant issued instructions requiring examinations to be conducted in a uniform manner. The intent of the instructions was to make standard examination and monitoring practices the rule. These instructions provided guidance for both conducting examinations and monitoring vessel activities. However, these instructions did not include a standardized checklist for use by boarding teams. Our analysis at the 10 field units did not identify any reason a standardized checklist could not be used.

Coast Guard officials at the headquarters level told us that local offices need latitude in making examinations and boarding team members are expected to exercise considerable judgment during their examination. Further, these officials told us that boarding teams frequently examine items not included on the locally developed checklists.

These officials also said that the background of boarding team members will affect those items they will pay attention to. For example, a member who has a radar speciality will pay more attention to a vessel's radar than a member without such a speciality.

We recognize that boarding teams should have some latitude in examining the boarded vessel. However, we believe examinations should be consistent among Coast Guard offices to ensure that all examination requirements set forth in relevant regulations and instructions are met.

IMPROVEMENTS TO THE CIVIL PENALTY  
PROCESS

When the Coast Guard discovers a violation, it determines what action will be taken based on the severity of the violation and the governing laws and regulations. The Coast Guard may require immediate correction of the violation and/or institute the civil penalty process. When a decision is made to pursue a violation through the civil penalty process, cases are forwarded to district level program officers who manage the PES and other programs. The cases are then forwarded to district hearing officers who may set penalty amounts based on the evidence presented and in accordance with appropriate statutes. As a result of this process, the Coast Guard may impose a fine, issue a letter of warning, or close the case without action.

We found differences among the four districts we examined in the time taken to process and close cases and in the amount of fines imposed for similar cases. We did not analyze the cases to

compare the fine with the violation. Recently, the Coast Guard started to accumulate data regarding the time it takes to process cases and the amount of fines imposed.

### Violation case processing

Although violation case processing differs among the four districts examined, the following steps typically occur from the time a violation is detected until the case is closed.

- Coast Guard personnel detect alleged violations and prepare violation reports. The reports are sent to the district program office for processing.
- The program officer reviews each report for completeness and ensures that all elements of the alleged violation are clearly described in the report. The officer may send the report back to the unit for additional information, close the case if it involves minor violations, or forward the case to the district hearing officer.
- The program officer may or may not recommend a penalty when forwarding the case to the hearing officer. For example, in the 11th District the program officers usually make recommendations as to an appropriate enforcement action, on the basis of their experience, the nature of the violation, and prior history of the vessel.
- The hearing officer reviews the facts, considers any recommendation by the program officer, and either proposes a penalty or sends the case back to the program officer for more information. If a penalty is proposed, the violator is then notified of the violation and the related penalty and is given 30 days to respond with additional information.
- If the violator provides additional information or requests a hearing, a hearing may be held; or the hearing officer may make a decision on the case, including closing the case without further action, issuing a letter of warning, or assessing a penalty.
- If the hearing officer assesses a penalty, the violator is notified of the amount and is given 30 days to send payment to the district's finance division. At this point, the hearing officer is no longer involved, unless there is a request to reopen the case because of new evidence or unless the case is appealed.
- Penalty collections are the responsibility of the district finance office and if necessary the Coast Guard legal office. If payment is not received, the case is either forwarded to the U.S. Attorney for collection or in cases involving small penalties closed if collection costs would exceed the fines.

--The U.S. Attorney reviews the case and may choose to return it without action or pursue collection of the penalty.

Districts' penalties and processing times differ

Variances exist among districts as to penalties assessed for violation cases involving port safety, vessel safety, and pollution prevention regulations and the amount of time it takes to process cases. However, the Coast Guard had not evaluated the reasons for these variances and therefore missed an opportunity to assess whether it had effectively administered the civil penalty process. We recognize that differences will always occur and that a faster process, larger collections, or consistent penalty assessment would not mean the district is performing more effectively or efficiently. The analysis of the civil penalty process being planned by the Coast Guard could identify possible problems in a district which warrant attention in its penalty process.

We collected data in four districts on 418 civil penalty cases closed between 1981 and 1983. The cases involved port safety, vessel safety, and pollution prevention violations. We also collected data on the length of time it took to process violation cases from the date the violation was identified through closing of the case. The Coast Guard has not collected this information and therefore was not aware of specific variances among districts until we discussed the results of our review with them. The tables on the following pages will not always total 418 cases, because, for some cases, we were unable to determine the required information for a specific processing phase.

The following table compares the average proposed and assessed penalty amounts for the cases we reviewed to the average and range of maximum penalty amounts that could have been assessed under the federal regulations during the period 1981 through 1983. The maximum fine depends on the type of violation and the period of time over which the violation occurred. For example, one case in the 8th District involved a vessel for which the maximum penalty assessments were on a per day basis. One violation involved carrying corrosive liquids in bulk while operating without a valid Certificate of Inspection for 430 days. The maximum penalty that can be assessed is \$25,000 per day for a total of \$10,750,000.

Comparison of Penalty Amounts for  
Violation Cases Sampled by GAO  
(1981-83)

<u>District</u>	<u>Cases</u>	<u>Penalty</u>		<u>Maximum penalty permitted</u>		
		<u>Proposed</u>	<u>Assessed</u>	<u>Range</u>		<u>Average</u>
----(averages)---						
1	108	\$2,753	\$1,252	\$100 to \$	127,000	\$ 28,899
5	104	768	520	100 to	150,000	36,137
8	91	381	278	100 to	12,375,000 <sup>a</sup>	232,356 <sup>a</sup>
11	114	543	503	100 to	100,000	18,872

<sup>a</sup>Includes three cases totaling \$19,913,500 that resulted from violations computed on daily basis. If these three cases were not included, the 8th District's range of maximum penalty permitted would be \$100 to \$275,000, and the average would be \$13,988.

The processing of violation cases requires time for several levels of review, as well as time for a response from the alleged violator. We collected information on the time it took to process the cases from the date the violation was identified to each of the various levels, as well as the overall time it took to process a case. For closed cases reviewed for which penalties were collected, the average total processing time from the date the violation was discovered to the date of payment (essentially closing the case) was as follows:

Average Time from Violation to Payment

<u>District</u>	<u>Number of cases</u>	<u>Average days</u>	<u>Range of days</u>
1	106	401	103 to 1,079
5	104	239	37 to 681
8	92	245	48 to 660
11	114	207	59 to 634

While headquarters has not issued guidance or milestone dates for case processing, one of the districts examined has developed criteria for timeliness. The 8th District directed in October 1983 that cases requiring civil penalty action be forwarded to the hearing officer within 45 days after the field unit determined a violation had occurred. We calculated the time it took to forward the case to the hearing officer in all four districts from the date the violation was found and determined the following averages and ranges:

Average Time from Violation Determination  
to Hearing Officer

<u>District</u>	<u>Number of cases</u>	<u>Average days</u>	<u>Range of days</u>
1	106	157	16 to 590
5	97	65	8 to 231
8	91	70	4 to 344
11	114	103	8 to 443

The 8th District hearing officer suggested that the hearing officer has 30 days to review the case before mailing the letter of notification with the proposed penalty. We calculated the elapsed time from the date the case is forwarded to the hearing officer until the first letter of notification is sent to the violator and found the following:

Average Time from Hearing Officer to  
Notification Letter

<u>District</u>	<u>Number of cases</u>	<u>Average days</u>	<u>Range of days</u>
1	107	57	3 to 282
5	96	16	1 to 72
8	90	119	24 to 275
11	114	7	0 to 38

The 8th District hearing officer told us that letters of notification should be mailed within 30 days of receipt. In explaining the average of 119 days, he said that the 8th District office was understaffed. In addition, he said the hearing office does not receive a steady flow of violation cases from the program officers, but rather the cases are forwarded in bunches, creating a backlog of work.

We calculated the time elapsing from the date the letter of notification was sent until the close of the case and found the following:

Average Time from Notification Letter  
to Case Closed

<u>District</u>	<u>Number of cases</u>	<u>Average days</u>	<u>Range of days</u>
1	107	191	14 to 688
5	103	157	11 to 598
8	91	55	5 to 429
11	114	96	18 to 363

As seen above, the case process time varies between districts. Districts also vary in how quickly they complete portions of the case process. For example, of the four districts,

the 8th District had the highest average time from the date the case is forwarded to the hearing officer until the first notification letter is sent (119 days), but it was the fastest in closing a case from the date the notification letter was sent (55 days).

A 1979 consultant study<sup>3</sup> reported on the Coast Guard's investigation activities. Included in this study was discussion concerning the Coast Guard's penalty assessments. The report concluded that a more comprehensive and consolidated data base was needed to establish a system for analyzing the penalty assessment process. It further concluded that although standardization of penalty enforcement procedures was not a practical goal, a continuous method of analyzing hearings' decisions appears to be a reasonable means of exerting managerial control over the enforcement process.

#### Recent Coast Guard initiatives

The Coast Guard recently recognized the need to begin collecting civil penalty data from district hearing officers. In a January 1984 memorandum concerning civil penalty statistical recordkeeping, the Marine Safety Council<sup>4</sup> stated,

" . . . we currently have no way at Headquarters to readily assess the degree of support that our civil penalty process lends to service-wide law enforcement objectives."

In the same memorandum the Council requested that hearing officers start submitting certain penalty case data to them. This data would include the following: the citation of each Code of Federal Regulation section allegedly violated; date of the violation; date violation report is received by the hearing officer; date of initial notification letter and penalty amount tentatively assessed; date and nature of the hearing officer's decision for each alleged violation and nature of final disposition. The eventual intent of this data collection is to provide feedback to the Commandant and members of the Marine Safety Council on how effectively the civil penalty process is supporting the Coast Guard's regulatory program. Additionally, the Marine Safety

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<sup>3</sup>Study to Develop Unified Investigative Capability and Policy Among the CVS, MEP, PSS, and RBS Programs, Messer Associates, Inc. (Report Number CG-M-4-80, December 1979).

<sup>4</sup>The Marine Safety Council generally manages and monitors the Coast Guard's regulatory program. The Council is composed of seven members: the Coast Guard's Chief Counsel, who serves as chair; and the Chiefs of the offices of Merchant Marine Safety; Operations; Engineering; Marine Environment and Systems; Boating, Public and Consumer Affairs; and Research and Development.

Council hopes to distribute an annual report to district commanders, program managers, and hearing officers on the observations based on the judgments of Coast Guard hearing officers.

In October 1984 the Marine Safety Council provided hearing officers with feedback on some initial penalty assessment statistics involving similar types of cases.<sup>5</sup> These statistics were for the period of January 1, 1984, to June 30, 1984. The statistics in the report showed that the average penalty assessment for the same class of violations varied among districts. For example, the average assessment for violations of navigation safety regulations ranged from \$221 in one district to \$2,215 in another. In addition, the number of warnings for the same type of violations varied among districts. For example, the number of warnings for violation of oil pollution prevention regulations for vessels ranged from 63 warnings out of 70 violations in one district to no warnings out of 20 violations in another district.

### CONCLUSIONS

The Coast Guard's vessel examinations vary from port to port. The Coast Guard has not developed a standard vessel examination checklist for use by all field units. Examination checklists are developed by the individual field units for their use. However, these checklists vary as to the numbers and types of items to be examined. As a result, the Coast Guard cannot ensure that all vessels that it examined fully met the required safety and pollution prevention regulations. In addition, the lack of a standard vessel examination checklist appears to conflict with the Coast Guard's intent to make uniform boarding enforcement practices the rule.

Although the civil penalty process is a major enforcement tool of the Coast Guard, the effectiveness of this process to support the safety enforcement program has not been evaluated. Such an evaluation is important because of the differences among districts both in the amounts of penalties assessed and the time taken to process violation cases. While such differences are expected, the Coast Guard should be aware of the differences and the reasons behind them. This information will enable the Coast Guard to improve its management of the civil penalty process. The Coast Guard has recognized the need to evaluate the penalty process. The Marine Safety Council began collecting penalty assessment information in January 1984. However, gaps exist in this information because not all districts have provided their penalty assessment data. The Coast Guard intends to improve the collection of penalty assessment information, during fiscal year

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<sup>5</sup>These statistics consisted of at least some data from 11 districts. Data from the 1st District were lacking while data from the 5th District were complete through May 15, 1984. In addition, data from the 14th District were comprised of only closed cases.

1985, by having all districts submit penalty assessment information to the Marine Safety Council.

RECOMMENDATION TO THE  
SECRETARY OF TRANSPORTATION

To help ensure that Coast Guard boarding examinations comply with the Commandant's instructions, we recommend that the Secretary direct the Commandant of the Coast Guard to develop a uniform checklist for use by all boarding teams conducting vessel examinations. Such a checklist should include all applicable vessel safety items specified in the Code of Federal Regulations, Coast Guard instructions, and the Coast Guard safety manual.

AGENCY COMMENTS AND OUR EVALUATION

In commenting on our draft report (see app. I, p. 42), the Department said that the Coast Guard has been developing for some time a standard vessel boarding form (checklist) and expects to complete its development by October 1, 1985. This action, when completed, fully responds to our recommendation.



**U.S. Department of  
Transportation**

**Office of the Secretary  
of Transportation**

400 Seventh St., S.W.  
Washington, D.C. 20590

JUN 13 1985

Mr. J. Dexter Peach  
Director  
Resources, Community and Economic  
Development Division  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Peach:

Enclosed are two copies of the Department of Transportation's comments concerning the U.S. General Accounting Office draft report entitled, "Management Improvement Could Enhance Enforcement of Coast Guard Marine Safety Programs."

Thank you for the opportunity to review this report. If you have any questions concerning our reply, please call me on 426-4756.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bruce T. Barkley".

Bruce T. Barkley  
Director of Management Planning

Enclosures

[GAO note: The Department presented additional information regarding the Coast Guard's use of industry data in making staffing decisions. Based on this information, we have deleted our discussions of the need for the Coast Guard to use such data from the final version of this report.]

DEPARTMENT OF TRANSPORTATION REPLYTOGAO DRAFT REPORTONMANAGEMENT IMPROVEMENT COULD ENHANCE ENFORCEMENT OF  
COAST GUARD MARINE SAFETY PROGRAMSSUMMARY OF GAO FINDINGS AND RECOMMENDATIONS

The GAO found that the Coast Guard used inaccurate and inconsistent information in its oversight of enforcement activities at the field level. Inconsistent and inaccurate field reporting into the Port and Environmental Safety/Marine Environmental Response Quarterly Activities Report (QAR) and Marine Safety Information System (MSIS) was identified. There appears to be inadequate follow-up on deficiencies noted primarily during inspections of U.S. vessels. The Coast Guard has no specific guidelines on adequate oversight of the National Cargo Bureau. The Coast Guard needs a uniform check list for vessel boarding.

The GAO is recommending that the Coast Guard improve its collection, analysis and use of information on marine industry activities to carry out its marine safety responsibilities. Specifically, guidance to field units to improve reporting into the QAR and MSIS is recommended. Guidance on adequate National Cargo Bureau oversight should be issued. District follow-up procedures for outstanding vessel deficiencies should be established. A uniform vessel boarding check list for all marine safety units should be developed.

SUMMARY OF DEPARTMENT OF TRANSPORTATION POSITION

The Coast Guard's Port and Environmental Safety Program is aware of the weaknesses identified by the GAO, independent of this study. In the course of normal program management, steps have been taken to improve many of the conditions brought out in the GAO report. A permanent Quarterly Activities Report review group was formed at CG Headquarters to review the reports and to initiate action for their correction when errors or inconsistencies are found. Procedures will be set up for district personnel to audit certain QAR data. MSIS is routinely reviewed for inconsistencies and port safety data is being cross-checked. A tickler file for outstanding vessel deficiencies has been established in the Marine Safety Information System. Guidelines on oversight of the National Cargo Bureau will be updated in the existing instruction. A standard vessel boarding checklist form is near completion.

POSITION STATEMENT

The Port and Environmental Safety (PES) program has been acutely aware of inaccuracies and inconsistencies in field reporting on the Port and Environmental Safety/Marine Environmental Response Quarterly Activities Report (QAR), and has, in conjunction with its own program management, taken steps to correct these weaknesses.

A permanent QAR review group has been formed to evaluate incoming QARs for accuracy of the data, clarity of completion instructions and value of the information collected. The major product of this review will be correspondence to the districts, and in turn the field units, requesting clarification and improvement in QAR data. Additionally, the importance of accurate reporting on the QAR is now being stressed in resident Marine Safety Commanding Officer, Executive Officer, and Core Courses at the Marine Safety School. The QAR review requirements for field units and districts will be strengthened in the next planned change to COMDTINST 5010.9A, "Instructions for completing the Port and Environmental Safety and Marine Environmental Response Quarterly Activities Report", to be issued about November 1985.

The finding that the PES Program manager does not use industry trend data for making staffing decisions is misleading. The PES Program recognizes that program activity is linked to industry activity. PES Program resource needs are calculated from the U.S. Army Corps of Engineers National Waterways Study that predicts activity in various segments of the maritime industry (for example: general cargo, oil and chemical transportation). This information gives good profiles of cargo types moving by water through U.S. ports. The information is coupled with the most recent individual port activity and field unit performance data, and computer modeled to determine resource needs. However, the industry trend material identified in the February 1984 CVS study was examined as well as other trend material gathered by the Marine Safety planning staff. The trend information, although potentially useful, did not reveal any radical departure from data which we already had. Periodically, cargo movement trends are also reported by Coast Guard officers on assignment to Port Safety Industry Training at various ports throughout the U.S., such as the one completed in January 1985 in the ports of Los Angeles and Long Beach.

The effectiveness of National Cargo Bureau (NCB) assistance in hazardous material regulation enforcement was initially evaluated by the PES Program in February 1984 and it was concluded that the program was working well. Highest priority has been given to first improving the Program's own performance through the Standard Vessel Boarding Program and a new Marine Safety Training and Qualifications program. Oversight of NCB activities, however, is necessary, and to strengthen field oversight and insure consistency, specific guidance on the percentage of NCB inspections required to be overseen by the Coast Guard, and procedures for improving performance, if necessary, will be added to COMDTINST 16616.7, "National Cargo Bureau Assistance in Hazardous Materials Regulation Enforcement".

There exists in MSIS a nation-wide problem list and a maintenance project operation list that track many needed changes and corrections to system and data collection. Since January 1985 the Port and Environmental Safety Division and the Planning and Evaluation Staff have systematically spot-checked MSIS vessel histories against violation reports and communicated disparities to districts and in turn to field units. Further, data from the port safety module has been recently extracted and is being cross-checked with parallel data in the QAR. If it is found that general procedures should be established to ensure all required data is entered timely and accurately into the MSIS, new policy will be placed in the Marine Safety Manual or MSIS Transaction Guides.

With deployment of the vessel inspection fragment of MSIS (October 1984) field units have an automatic tickler file for outstanding vessel deficiencies. The tickler file also automatically reminds Commanding Officers to send letters to responsible parties when the compliance date has passed by drafting a suitable letter with the particulars of the deficiency included. These outstanding deficiencies will also appear in the port safety module by September 1985. We are working to make this subject an item on checklists used by District Inspectors and a continuing item of discussion at the District Commander Conferences. Estimated date for inclusion in District Inspection checklists: 1 January 1986.

A Standard Vessel Boarding Form (a checklist) has been under development for some time, and is close to completion. It is the last step in the Program's proactive improvement of vessel boarding procedures (Standard Vessel Boarding Program) that began in 1982. The Standard Vessel Boarding Form could not be developed until changes to the new boarding program were completed in July 1984. It includes all key safety and pollution prevention items contained in regulations, instructions and the Marine Safety Manual. Estimated completion date: 1 October 1985.

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