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UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

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LOGISTICS AND COMMUNICATIONS  
DIVISION

B-178205

JUNE 29, 1979

The Honorable Harold Brown  
The Secretary of Defense

Dear Mr. Secretary:

The Department of Defense (DOD) will need commercial tanker ships during times of war or other national emergencies to transport fuel to military forces. DOD planners and other officials concerned with our strategic mobility must have detailed information concerning the number, availability, capabilities, and other special features of commercial petroleum transport ships.

We found, however, that the system DOD relies on did not accurately report the number of tankers in the merchant fleet. Additionally, the system lacks information on certain ship characteristics which planners need to forecast which ships might be used to transport refined petroleum products.

As a result of our inquiry, DOD officials have established a more accurate tanker inventory. But, the system still must be improved so that other needed data will be available to DOD planners.

BACKGROUND

The Military Sealift Command (MSC) had 25 petroleum tankers in its controlled fleet in April 1979. This fleet is adequate during peacetime operations, but the fleet will need to be augmented with additional commercial assets during a war. In wartime, the merchant tanker's primary task will be to provide point-to-point resupply of petroleum products. They may also be called on to refuel Navy vessels at sea.

This anticipated reliance on commercial tanker ships dictates that DOD constantly monitor the status, composition, and characteristics of the U.S. merchant fleet. The primary source within DOD for sealift information of this

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nature is the Shipping Information System (SIS)--a computerized data bank established in 1967. SIS, under the operational control of MSC, is part of the Navy's Integrated Sealift Systems, which also includes:

- Requirements Against Cargo Transportation, a simulation model used to examine the capability of U.S. sealift assets to meet the cargo requirements of a contingency operation.
- Ships Initialization Reporting System, used to determine the time phased availability of merchant ships.

In 1968 the Departments of Commerce and Transportation were invited to participate in the continued development of SIS to provide a single authoritative source of sealift information that could be used by all Government agencies. A formal agreement was never entered into, and use of the system by these agencies is now limited to isolated circumstances.

SIS data files are routinely updated through several interface programs. The Maritime Administration of the Department of Commerce provides a copy of its Ship Information Data Base on magnetic tape quarterly. Also, Fairplay International Records and Statistics, a Division of Fairplay International, Inc., provides a copy of its Ship Information Data base, on magnetic tape quarterly. The information on tape from both sources is edited, translated, converted, reformatted, and printed on tape that can be used to update SIS data files. A third source, the Naval Intelligence Support Center of the Naval Intelligence Command, provides a biweekly copy of unclassified changes to its data base on magnetic tape.

Information on more than 30,000 ships is included in SIS and the data files contain over 100 ship descriptors. These descriptors provide information about the characteristics of individual ships, such as the length, beam, speed, year built, and name.

CONFLICTING INVENTORY DATA  
HAS BEEN RECONCILED

LCD needs to know, on a continuing basis, the number of available tankers capable of transporting the refined petroleum products that military forces will need. We found, however, that the ever-changing nature of the merchant marine

had created some problems in maintaining an accurate tanker inventory, even with an automated information system. Many errors we noted were the result of changes in the status and names of ships and currency of source data.

Our queries of other shipping information systems maintained by the Department of Commerce and the Department of Transportation also produced conflicting data concerning the total inventory of U.S. flag commercial tankers. These inventories were affected by problems similar to those experienced by DOD. The situation was further aggravated by differences in the criteria with respect to the definition of ships to be included in the inventory. For example, the criteria for ships to be included in the Maritime Administration Tanker Data Base are that the vessels be U.S. flag, ocean-going, and of 1,000 gross registered tons and over. The Coast Guard includes all U.S. vessels inspected under title 52 of the revised statutes, while the SIS includes all foreign and American ships that are 1,000 gross tons or more, 1,250 dead weight tons or more, or at least 250 feet long.

In our initial analysis of the tanker inventories, compiled and maintained by the various sources mentioned above, we found that the total universe of tankers was 326. We made this determination by consolidating the three inventories. However, no single listing contained more than 281 tankers (Coast Guard) or less than 277 (Maritime Administration and MSC). Even though the individual totals were fairly close, a ship-by-ship analysis revealed that 90 tankers, or about 27 percent of the consolidated total, were not mutually recognized by all sources. Although this does not indicate a high error rate in any of the inventory listings--as mentioned earlier there are differences in the criteria with respect to the definition of ships to be included in the inventory--it does make an accurate determination of the tanker inventory more difficult. Some of the reasons for the inconsistencies and discrepancies were name changes, type of trade, change in status, no record of vessel, and type of ship. We presented our finding to officials of DOD, Transportation, and Commerce. All took immediate and appropriate actions to reconcile the inventories. As a result, near agreement has been reached on the composition of the U.S. flag tanker fleet.

PLANNERS NEED MORE INFORMATION  
ABOUT MERCHANT TANKERS

We also found that available automated information systems, including SIS, do not possess enough detailed information on the characteristics of tanker ships to enable planners to forecast which ships might be of use in transporting refined petroleum products. For example, recent DOD planning documents have forecasted, based on SIS data, a number of suitable tankers. This figure is merely a total of small and medium sized tankers. This type of analysis, however, does not identify those tankers which are most suitable and desirable for military use. For example, there are numerous tanker characteristics, not currently found in SIS, which could enhance DOD's ability to quickly identify those tankers most suitable for carrying DOD petroleum products. Some tanker features about which the characteristics should be known in order to better identify those ships that provide national defense suitability include discharge rates, product separation, product multiplicity, and coated fuel cargo tanks.

We also found that many tankers, although capable, do not always carry refined products. This situation may affect the early availability of tankers in a contingency since certain steps must be taken to clean those ships to eliminate or greatly reduce the possibility of product contamination. The data from which industry trends and impacts on early availability can be determined is available from MSC. Since the type of tankers discussed here are so vital to our logistics systems, we believe the additional information would greatly assist military planners to more accurately forecast the availability of suitable ships.

RECOMMENDATIONS TO  
THE SECRETARY OF DEFENSE

Steps have been taken to develop a more accurate inventory of commercial tankers. However, to keep the SIS as accurate and current as possible, we recommend that efforts similar to those taken recently to reconcile tanker inventories be done regularly.

We also recommend that prompt action be taken to include relevant data in SIS to permit more effective analysis of those tankers most suitable for carrying refined petroleum products. The data should include characteristics describing

a tanker's capability in the areas of product separation, product multiplicity, discharge rates, and coated fuel cargo tanks.

These steps should improve LOD's ability to effectively monitor the merchant tanker fleet and provide military planners with better quality data from which to determine our defense posture.

#### AGENCY ACTIONS

In commenting on a draft of this report, DOD officials concurred in our findings and recommendations. They said that, as a result of our review, actions intended to improve the quality of data used in sealift analysis were already underway. For example, the reporting system that provides petroleum contingency requirements information is being expanded and improved to identify 43 types of fuel. With more precise information concerning such requirements, LOD will be able to more adequately determine transportation needs.

Additionally, MSC is in the early stages of improving the SIS for the purpose of developing it into the single authoritative source of sealift information within DOD. The improved system is intended to provide DOD with more complete and accurate data from which operational and planning analysis of sealift can be made. MSC will identify all ship characteristics available and needed by LOD, eliminate duplicative information sources where possible, and include data not currently recorded. The latter process will include those engineering characteristics identified in this report.

LOD also agreed that periodic reconciliation of tanker inventories with sources outside of LOD, such as the Maritime Administration, would help keep the data base accurate and current.

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As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's

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first request for appropriations made more than 60 days after the date of the report. We would appreciate receiving a copy of these statements.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of the Navy; the Chairmen, House and Senate Committees on Armed Services; and the above-mentioned committees.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "R. W. Gutmann".

R. W. Gutmann  
Director