



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

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NATIONAL SECURITY AND
INTERNATIONAL AFFAIRS DIVISION

AUGUST 19, 1983

Rear Admiral A. A. Giordano
Commander, Naval Supply Systems Command



Dear Admiral Giordano:

Subject: Navy logistics data base problems need
increased management attention (GAO/NSIAD-83-48)

We have completed our review of the Navy's efforts to improve the accuracy of its logistics data base as part of the project to acquire new computers and redesign the Uniform Inventory Control Point (UICP) system.

For a number of years, General Accounting Office, Defense Audit Service, Naval Audit Service, and internal Navy reviews have reported on problems with the completeness and accuracy of the automated logistics files at Navy inventory control points. These reports point out how extensively the information in computer files is used in the decisionmaking process. They provide countless examples of erroneous expenditures of supply dollars and adverse impacts on operating force readiness when decisions are based on incomplete or inaccurate information.

Our current review disclosed that the plans the Navy has developed to replace the computer and totally redesign the UICP system do not adequately address the data base problems. A number of efforts are underway to identify and correct errors in the existing files, but they are being undertaken independently by different organizational entities within the inventory control points. These individual efforts only address part of the problem or a particular segment of the data base. They need to be coordinated and raised to a high enough management level so that the significance of the total problem can be defined and a Navy-wide resolution developed. Also, the resources required to accomplish this must be provided.

COMPUTER UPGRADE PROGRAM

The Navy is replacing the data processing equipment at its two inventory control points, the Aviation Supply Office (ASO) and the Ships Parts Control Center (SPCC). The project includes a complete redesign of the UICP system which is used in overall management of the Navy wholesale logistics program.

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Both ASO and SPCC depend greatly on automatic data processing equipment to carry out their mission of providing supply support to naval operating forces. This includes managing 2.2 million repair parts with an inventory value of \$10.8 billion distributed throughout the world.

The Navy concluded in 1977 that continued expansion of the UICP system with the existing equipment was no longer practical. Plans were developed to redefine system requirements to take advantage of the capabilities of the latest generations of computer hardware and software systems. New equipment is scheduled to be installed in 1984 and the newly designed system is scheduled to be operational by 1988. The project will require 11 years to complete at an estimated cost of \$630 million.

OBJECTIVES, SCOPE AND METHODOLOGY

We made this review because many prior audit reports have dealt with inaccurate and incomplete information contained in the computerized files of the Navy logistics systems. Our objective was to determine what specific actions the Navy planned to take to improve the quality and reliability of its data files as part of the effort to improve the efficiency and effectiveness of the logistics system.

Our review was made in accordance with generally accepted government audit standards. We made our review at the Naval Supply Systems Command, ASO, SPCC, and the Fleet Material Support Office. We examined records and held discussions with responsible officials of the major organizational entities involved in the use and/or redesign of the UICP system. We also reviewed audit reports issued by GAO, Defense Audit Service, Naval Audit Service, and Navy internal review groups.

ACCURACY OF UICP DATA BASE IS QUESTIONABLE

Over the years, the accuracy and reliability of logistics information in the UICP data base has been challenged in GAO, Defense Audit Service, Naval Audit Service, and internal audit reports. In May 1962, we stated that incomplete inventory data in the Navy's computer records resulted in understatement of stock on hand which led to overbuying of repair parts. Subsequent audit reports continued to point out that accurate, integrated, and reliable information is critical to effective and efficient supply management operations because many supply decisions are based on information contained in the computerized data files. Decisions based on inaccurate information can result not only in the erroneous expenditure of supply dollars but also in the degradation of the readiness of operating forces.

A staff report to the House Committee on Armed Services, Subcommittee on Readiness, disclosed that inventory adjustments of more than \$500 million were made in 1981 at six naval supply centers that store and issue material. The aggregate of the inventory data recorded in the automated files of the stock points is also recorded in UICP files and is used extensively in the decisionmaking process.

When inventory managers at the inventory control points cannot rely on information contained in the computers, they are required to manually review and adjust the data before decisions are made. This is often time-consuming and adversely affects the performance of their other duties.

Data accuracy is a longstanding problem with the UICP system and it continues to persist today. A series of computerized analyses of various segments of the UICP master data file at ASO disclosed about 990,000 errors. These analyses were completed in September 1982. Months later, only about 3 percent of the errors had been corrected.

Both inventory control points continue to experience problems with erroneous transactions being reported by storage activities. During the first 9 months of 1982, more than 16 million transactions were reported to the inventory control points by stock points. Computer editing of these transactions detected more than 1.8 million errors, or 11 percent of the transactions reported.

It is significant that the errors discussed in the above examples were detected by computer editing. Many errors cannot be detected by the computer. In these instances, errors are accepted into the data files and can be used in the decisionmaking process.

NAVY EFFORTS TO IMPROVE DATA BASE ACCURACY

Logistics managers at the inventory control points are aware of inaccuracies in the system and there are a number of ongoing efforts designed to improve data base quality. Some of these are continuing efforts while others are of a one-time nature. For example:

- Inventory control points continue to monitor and work with stock points to improve the quality of transaction reporting from that level.
- Plans are being developed to allow computerized access to transaction history files, which will facilitate re-searching errors.

- Computer programs have been developed to make comparisons of selected data in the files and to print out obvious discrepancies.
- A contract has been awarded for development of a computer program that will compare similar data elements in different files and identify inconsistencies.
- A minicomputer was installed to improve the quality of data entry and to eliminate the need for transcribing and keypunching data for input.

NEED FOR NAVY-WIDE SOLUTION
TO DATA BASE ACCURACY PROBLEM

The above efforts are all designed to improve the accuracy of the data base; however, they are not being effectively coordinated. No single organizational entity is responsible for assuring overall quality control of the entire data base. Efforts currently underway to identify and correct errors are being implemented independently by the two inventory control points and their departments and branches. For example, SPCC has established a committee of division level representatives to monitor the correction of errors within its quality assurance process and ASO has developed programs to identify missing or inconsistent information in the contract status file, obligations status file, and due-in/due-out file. When large numbers of errors are identified, the inventory control points do not have the resources to research and correct the errors and, at the same time, keep up with current workloads.

The UICP data base is an extremely large, highly integrated body of information that serves a wide range of management requirements throughout the Navy logistics community. Among others, it supports the needs of weapon systems managers and procurement, accounting, inventory control, and maintenance functions. Therefore, it is essential that the data base problems be corrected.

In our opinion, the Navy needs to make a comprehensive analysis of the entire logistics data base and develop an overall plan to

- identify those segments of the file and specific data elements that are critical to the decisionmaking process,
- develop a method of assessing the relative accuracy or inaccuracy of all critical data elements in the data base,

- identify a most likely source of correct data and develop a means of entering this data in the base,
- consider the impact that erroneous data in one file may have on related information in other files, and
- establish a timely sequence to assure that all related data is corrected concurrently.

Hardware and software constraints in the current UICP system have contributed to inaccuracies in the data base and have severely limited the Navy's ability to correct these deficiencies. New hardware and a newly designed system should enable the inventory control points to more readily maintain consistent and accurate data. However, it will not eliminate errors in the existing files. This will require a separate effort, and we believe it should be accomplished in conjunction with the current effort to upgrade the UICP system.

CONCLUSIONS AND RECOMMENDATIONS

We believe that the benefits from the new computer system will not be realized until all errors in the existing data base have been identified and corrected. There is a pressing need for a management commitment at the highest levels of the Navy to focus attention on the significance and persistence of the data base accuracy problem and to assure effective corrective action.

To achieve maximum benefits of the project to upgrade the UICP system, we recommend that you

- identify those segments of the UICP data base that are critical to the decisionmaking process,
- determine the relative accuracy or inaccuracy of critical data elements within these segments,
- assign specific responsibilities to assure that all significant errors are identified and that correct data is entered into the files,
- assign management responsibilities for overseeing the entire effort,
- establish milestones for completing the project to correct the data base, and
- make the necessary resources available to complete this project.

We would like to receive your comments on the recommendations and other matters discussed in this report. Copies of the report are being sent to the Secretary of Defense and the Secretary of the Navy.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Henry W. Connor". The signature is written in dark ink and is positioned above the typed name.

Henry W. Connor
Senior Associate Director