

RESTRICTED — Not to be released outside the General Accounting Office except on the basis of special approval by the Office of Congressional Relations, a record of which is kept by the Distribution Section, Publications Branch, OAS

090652
02



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

RELEASED

74-0388

B-163074

JUL 18 1973

The Honorable George H. Mahon
Chairman, Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

During the past 7 years the Army has spent about \$75 million to develop and test a combat information system--the Combat Service Support System (CS3). CS3's basic objective is to improve the efficiency and responsiveness of combat service support by automating such functions as supply, personnel, and maintenance at the division and corps level of the field Army and to provide the commanders with up-to-date information on these functions under field and garrison conditions.

At your request we have monitored this system's development since late 1969. In prior reports to you concerning CS3, we suggested that it not be deployed outside the test site at Fort Hood, Texas, until it has been proven workable.

At the time of our last report to you (B-163074, June 2, 1972), each division and each corps was to maintain separate computer complexes to be interconnected by communication links to provide teleprocessing capabilities. The Army has since changed CS3's concept to using a computer complex at the corps level as a service center to provide, without teleprocessing capabilities, automated data processing (ADP) services for a corps with a maximum of three divisions. This change was intended to resolve issues your Committee identified and problems we previously reported. The new concept was also intended to be less costly than alternatives the Army evaluated and to be more compatible with its funding constraints for developing CS3.

On March 1, 1973, we discussed with a member of your Committee staff our reservations about and the potential difficulties that might be experienced with the service center concept. We were primarily concerned with the computers' ability to process the workloads and with CS3's ability to interface efficiently with other systems and to recover from equipment failures or outages and to expand to meet known future workloads. The Army was then preparing to demonstrate the service center concept at Fort Hood. We were asked to monitor that demonstration and to report to you on our observations and conclusions; this report responds to that request.

904366 090652

Because of the recent tests at Fort Hood and the concerns expressed by us and others, the Army is discontinuing the corps service center concept. However, an improved combat information system is still needed to provide for efficiently and effectively using military resources. The Army, therefore, plans to reevaluate CS3, redetermine what it must accomplish, and redesign it to meet those needs. We believe this plan is appropriate in view of the information needs at the division and corps levels and because the Army may be able to use the software already developed for CS3.

DEFICIENCIES IN THE
CORPS SERVICE CENTER CONCEPT

The Army Audit Agency, GAO, and others have repeatedly questioned the corps computer complex's ability to process the existing workload, to have sufficient mobility to meet tactical needs, to have sufficient growth capacity, and to provide users with the information needed to manage their resources.

The Fort Hood demonstration was to help resolve some of these questions and to prove that the corps service center could function in a garrison environment. However, the demonstration did not include all the tests we considered necessary to effectively evaluate the advantages and capabilities of a combat service support system. For example, it did not (1) include artificial conditions necessary to simulate combat conditions, (2) test the system's recovery or backup capability in case of equipment failures, and (3) evaluate the system's ability to meet functional needs. Even with these limitations, the service center could not process the workload of a corps with two divisions in the garrison environment.

More specifically:

- The corps complex must have the capacity to handle the combined workload for a corps with three divisions, but the service center computer complex could not process the combined workload of a corps with two divisions. For example, supply transactions were not processed as often as the functional manager stated was required and some management reports were never produced or were not produced as frequently as planned.
- The ADP system's inefficient operation due to numerous technical problems indicated that the system's design still contained many

imperfections. For example, problems in the flow of processing consistently interrupted processing cycles and some cycles had to be rerun because of inaccuracies or omissions in the output. Processing time was therefore lost.

- The supply subsystem did not adequately meet users' needs or improve supply responsiveness because certain major CS3 features either had not been perfected or had been eliminated. CS3 lacked such features as remote input and output with on-line communications, selective random processing, and the ability to handle immediate inquiries and to generate special reports. This delays the processing of priority transactions and management requests for information.

These problems are particularly significant because the workloads for the test were less than the intended workload requirements for CS3. Your Committee has recognized that a computer system must have growth potential to handle the projected workload throughout the system's life. As conceived, the corps service center could not handle the current workload, did not provide for the normally expected growth of ADP requirements, and did not allow for expanding CS3 to include other functional applications the Army planned to include.

In this respect, the Army is contemplating or preparing changes, replacements, or expansions for the supply, personnel, and maintenance subsystems. For example, the maintenance subsystem is considered an interim system pending the development of a Standard Army Maintenance System (SAMS). Three maintenance subfunctions are to be added before SAMS is ready. These are (1) Material Readiness Reporting, (2) Inoperative Equipment Status Reporting, and (3) The Army Maintenance Management System National Level Reporting. Three additional subsystems planned or being developed for the personnel system (SIDPERS) are automated orders, automated assignments, and automated requisitions. In supply, a Standard Army Intermediate Level System (SAILS) has been considered for use as a corps supply management system. SAILS underwent prototype testing at Fort Carson, Colorado. Therefore, it is evident that future workloads will be much greater than those handled during the recent demonstration at Fort Hood.

B-163074

The Assistant Vice Chief of Staff of the Army assured us that the Army intends to reevaluate CS3 and that it does not intend to deploy a system which is not an improvement over existing systems. The Assistant Secretary of the Army for Financial Management, the senior ADP policy official, concurred with this position.

The Army later advised us that, in response to our suggestions, it is reevaluating CS3. It plans to locate computers in the corps area and the divisions and place on them only those applications that meet the users' needs. The Army formed a logistics evaluation group which was expected to begin, in June 1973, the review of user needs. The Commanding General, Forces Command, is responsible for preparing the test plans and ascertaining whether CS3 meets users' needs.

According to the Army's initial computations, this approach will cost less than the configurations previously contemplated in both the original CS3 design and the later corps service center concept. This cost reduction is expected to result from using computers at division level which are smaller than the computer which was to be used at the corps level in CS3, from acquiring the computers from third parties, and from making maximum use of subsystems already developed and equipment acquired. We have not evaluated this concept and believe that its benefits can be more readily identified after user needs are determined. We believe a final decision on hardware requirements should not be made until such needs have been determined.

MATTERS FOR CONSIDERATION BY THE COMMITTEE

We believe that the Army should continue to develop a combat information system and that its reevaluation is an important step in successfully developing such a system. During CS3's evolution many changes were made to the basic design, often resulting in conflict between objectives and capabilities. The Committee may wish to caution the Army that further development should insure that CS3 meets the objectives of both users and higher headquarters. Before selecting a computer configuration, the Army should consider the computer system's capacity, including growth potential; its backup capabilities; its compatibility with other major systems; and its flexibility to operate efficiently in both tactical and garrison environments.

Furthermore, in the past, time frames established for implementing changes and correcting problems have been overly optimistic. We

B-163074

believe that event milestones should be systematically achieved and the complete system should then be tested under a reasonable range of expected conditions. Army officials agreed and said that the new plan is to be event oriented so that each event milestone is achieved before proceeding to the next one. They also said the computer system will be properly tested before it is deployed and the final hardware configuration will not be established until user needs have been validated.

The action the Army plans will require an extended period to complete; however, if followed, it should significantly assist the Army in developing and deploying a system meeting CS3's overall objectives.

As agreed, we are sending copies of this report to the Secretaries of Defense and the Army for internal use only. We plan no further distribution of this report unless you agree or publicly announce its contents.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "James P. Abate".

Comptroller General
of the United States