

GAO

December 1986

# COMPUTER SYSTEMS

## Continued Oversight Crucial for Air Force's Requirements Data Bank



131727

---

---

Information Management and  
Technology Division

B-220195

December 5, 1986

The Honorable Caspar W. Weinberger  
The Secretary of Defense

Dear Mr. Secretary:

We have completed our review of the Requirements Data Bank—one of nine projects in the Air Force's \$1.7 billion Logistics Modernization Program. The project, when completed, will compute estimated quantities and associated budgets for spare parts and materials needed for logistics support of Air Force weapon systems and other items.

We found that the Air Force had not exercised firm management control over this project, thus causing schedule delays and cost increases. Before our audit concluded, the Air Force had initiated several corrective actions to improve its project management.

## Requirements Data Bank: A Brief Description

The Requirements Data Bank—an automated logistics management system—is being developed by the BDM Corporation of McLean, Virginia, using a cost-plus-award-fee contract. The contract, dated January 24, 1984, covers an 11-year period that includes annual options for development and maintenance and modification after development is complete. Overall acquisition costs for the project are estimated at \$146 million (hardware, software, and services), and the life-cycle cost estimate is \$300 million.

## Objective, Scope, and Methodology

Our objective was to evaluate the Air Force's development and management of the Requirements Data Bank project. We reviewed project management policies and procedures required under Department of Defense directives and Air Force regulations. We interviewed responsible Air Force and contractor officials, reviewed project management and contract documents, analyzed cost and status schedules, and assessed the procedures followed. We performed our work from July 1984 through May 1986 at the Air Force Logistics Command, Wright-Patterson Air Force Base, Dayton, Ohio; the Air Logistics Center, San Antonio, Texas; and at the project offices of the BDM Corporation, the development contractor, and of the Systems and Applied Sciences Corporation, the independent software validation contractor, both of which are located in Dayton, Ohio. Our review was conducted in accordance with generally accepted government auditing standards.

The Department of Defense was provided the opportunity to comment orally on the draft of this report. The agency agreed with the report as written and provided no additional comments.

## Management Problems Cause Schedule Delays and Cost Increases

Our work indicated that the Air Force had not followed the required project management guidance developed under Department of Defense life-cycle management (DOD Directive 7920.1) and implementing Air Force regulations to ensure that development costs, schedules, and performance goals were achieved. Consequently, the Air Force experienced problems in early system development. By the end of the first development year in January 1986, cost estimates for the first option of the contract had increased about \$6.5 million, or 35 percent; the schedule to complete planned work had slipped nearly 1 year; and only one of eight software products contracted for delivery had been received. Examples of project management weaknesses we found during our review included:

- System requirements were not adequately defined prior to beginning software development.
- There were no established procedures for controlling changes to the system requirements during software development.
- Software validation testing did not sufficiently demonstrate that system requirements would be met.
- Software products were formally accepted before testing was completed and identified deficiencies were corrected.
- Project management review requirements, necessary to ensure orderly, controlled system development, were not met.

On the basis of changes proposed by the BDM Corporation, the Air Force believed first-year costs and schedule slippages could be recovered by the end of the second year. Therefore, in January 1986, the Air Force exercised the second-year development option of the contract even though first year work was not complete. The contract specified that options need not be exercised until 14 days after work was completed on the prior options. In our opinion, the Air Force relinquished leverage over the BDM Corporation and added risk to the development by prematurely exercising this option.

---

## Air Force Has Initiated Corrective Actions

In September 1985, we notified the Air Force Logistics Command's Deputy Chief of Staff for Information Systems that it was not adhering to the project management guidance prescribed by the Department of Defense and the Air Force. We advised that swift, corrective action was needed to reduce the risk of additional schedule delays and cost increases. Throughout the remainder of our review, we held numerous meetings with Air Force officials to discuss the project management weaknesses summarized previously.

During these meetings, the Air Force acknowledged the early development problems we had identified, and it informed us that corrective actions to improve project management had been initiated. Specifically, the Air Force Project Director told us that policies and procedures, consistent with Defense and Air Force guidance, are being implemented to better manage project development during the second and subsequent option years. These policies and procedures include a better mechanism for defining system requirements, including increased user involvement; a framework for establishing system requirements and controlling changes; new software test and validation standards; and a commitment to hold all of the prescribed project management reviews. The Air Force believes that, through implementation of these corrective actions, the project will be on schedule and only \$1.1 million over cost by the end of the second option year in January 1987.

---

We are encouraged by the corrective actions started by the Air Force. We could not, however, evaluate the effectiveness of these actions because they were not fully implemented when we concluded our review. The Air Force Audit Agency has initiated several reviews of automated logistics management system developments, during which it plans to follow up on some of the corrective actions taken on the Requirements Data Bank project. We believe this oversight will be important in determining the status of the project as the Air Force decides whether to exercise or delay the third contract development option in January 1987.

We currently have a congressional request to review all of the Air Force's Logistics Management System Modernization Program projects. During our review, we plan to do some follow-up work on the Requirements Data Bank project.

---

We are sending copies of this report to the Secretary of the Air Force and to other interested parties upon request.

Sincerely yours,

A handwritten signature in black ink that reads "Warren G. Reed". The signature is written in a cursive style with a large, sweeping initial "W" and "R".

Warren G. Reed  
Director

---

Requests for copies of GAO reports should be sent to:

U.S. General Accounting Office  
Post Office Box 6015  
Gaithersburg, Maryland 20877

Telephone 202-275-6241

The first five copies of each report are free. Additional copies are \$2.00 each.

There is a 25% discount on orders for 100 or more copies mailed to a single address.

Orders must be prepaid by cash or by check or money order made out to the Superintendent of Documents.

---

United States  
General Accounting Office  
Washington, D.C. 20548

Official Business  
Penalty for Private Use \$300

Address Correction Requested

---

First-Class Mail  
Postage & Fees Paid  
GAO  
Permit No. G100