

135670

United States General Accounting Office

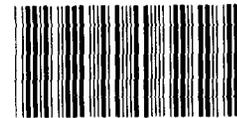
GAO

Report to the National Archives

April 1988

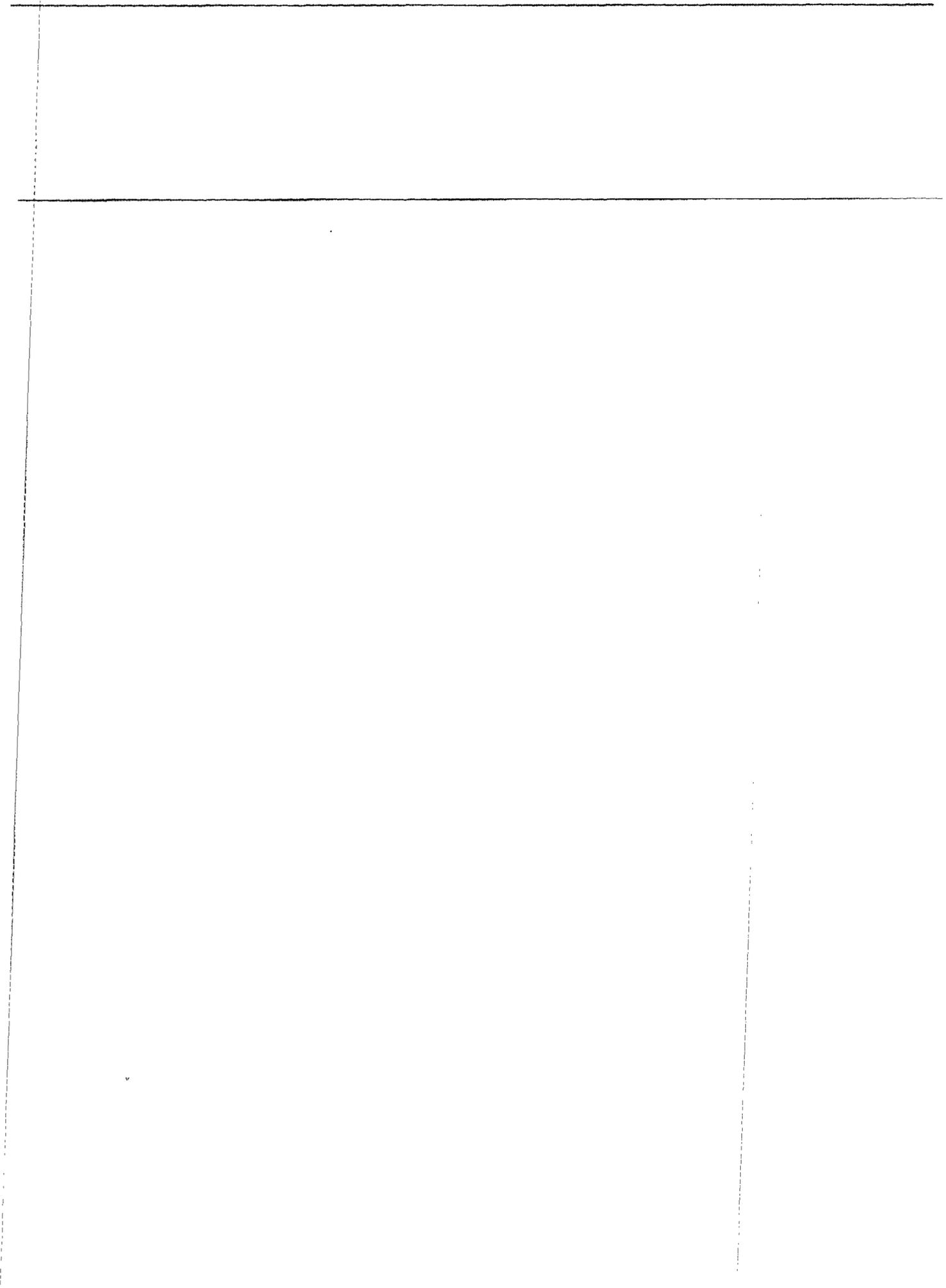
ADP PLANNING

Allegations of Inadequate Procurements at the National Archives



135670

041988/135670



**Information Management and
Technology Division**

B-230534

April 28, 1988

James C. Megronigle
Assistant Archivist
for Management and Administration
National Archives and Records Administration

Dear Mr. Megronigle:

This report responds to allegations reported by an employee of the National Archives and Records Administration to our Office of Special Investigations. The allegations concern irregularities in certain computer procurements at the Archives from 1982 to the present. The allegations involve the actions of the Office of National Archives and the Office of Management Administration in the procurement of a Prime 250 II computer in 1982, its upgrade in 1984 to a Prime 9750, the subsequent procurement of a second Prime computer (model 2655) for the Trust Fund's Service Order System, and the related investigation conducted by the Archives' Audits and Compliance Staff. The principal allegations, as reported by the Archives employee, were that:

- (1) In a 1982 year-end spending spree, the Archives purchased a Prime 250 II computer to copy machine-readable tapes. As a result of inadequate planning, the computer never functioned in a manner necessary to copy tapes.
- (2) In 1984, Archives officials upgraded the original Prime 250 II to a Prime 9750 to copy and preserve machine-readable tapes, but the Prime 9750 could not be used to copy tapes; as a result, the Prime was underused.
- (3) In 1985, the Archives purchased another Prime for the Trust Fund's Service Order System, even though the Prime 9750 had unused capacity. The Archives now has two computers doing what one computer could do; the system has continually failed because users had not been involved in defining the requirements; and the users' needs were not being met in such basic applications as the printing of mail labels.
- (4) The related investigation conducted by the Archives' Audits and Compliance Staff was flawed because it did not address user dissatisfaction with the Service Order System.

On the basis of evidence gathered during our investigation, we found that the allegations are without substantive merit. Archives officials responsible for the procurement used reasonable management controls and techniques to ensure that the systems in question were justified, were deployed in support of the agency's mission, and would satisfy users' needs. In summary, our evaluation of the Archives' documentation showed that

- the Archives procurement of the Prime 250 II was planned in advance of the end of the fiscal year, and that the machine's tape copying limitations applied only to the copying of large data files — a known constraint identified by Archives officials early in the procurement process;
- the primary purpose of the Prime 9750 was to support all the Office of the National Archives automated data processing activities, and that copying tapes was a secondary consideration;
- that, while the Prime 9750 had unused capacity, the system could not provide restricted access essential for appropriate financial control of the Trust Fund's Service Order System; and
- the Archives' investigative report was appropriately concerned with whether the procurement was cost beneficial to the Archives.

Our objective was to determine if the allegations were substantially correct. We evaluated the extent to which Archives officials met the criteria for managing information technology as set forth in the Paperwork Reduction Act of 1980, Office of Management and Budget Circular A-130, and the General Services Administration's Federal Information Resources Management Regulation. We also evaluated the reasonableness and competence of the Archives activities pursuant to GAO's Standards for Internal Controls In the Federal Government and GAO's guide entitled Evaluating the Acquisition and Operation of Information Systems. See the appendix for details of the allegations and our findings.

We performed the review between February 24, 1988, and March 11, 1988, and conducted 17 interviews at the Archives headquarters, Washington, D.C., with Archives officials in the Office of the Archivist of the U.S., the Office of the National Archives, the Office of Management and Administration, and the Office of Records Administration. Our interviews included individuals who were purported—by the individual making the allegations—to be knowledgeable about the problems under investigation. Additionally, we gathered and analyzed documentation pertaining to the allegations. While we did not formally obtain agency comments, we discussed our findings with you in our exit conference

and you concurred with the facts presented. Our work was conducted in accordance with generally accepted government auditing standards.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Thomas P. Giammo".

Thomas P. Giammo
Associate Director

Discussion of the Four Primary Allegations

(1) Procurement of the Prime 250 II Computer

As reported by an Archives employee, in a 1982 year-end spending spree, the Archives purchased a Prime 250 II computer to copy machine-readable tapes. As a result of inadequate planning, the computer never functioned in a manner necessary to copy tapes.

Our analysis of the Prime 250 II procurement file showed that the Archives documented all transactions and other significant events and that this procurement was planned within the first 6 months of fiscal year 1982. Additionally, the procurement justification asserts that it is obligatory for the Archives to accept computer tapes in any format provided by government agencies or by government contractors. For example, the Archives must be able to accept agency tapes and formats for data sets that include fixed and variable length records, and blocked and unblocked records. A limitation identified in the justification was that this procurement would not enable the Archives to handle extremely large data files, especially those that are software-dependent, and that it would still be necessary to use outside sources, such as the National Institute of Health's International Business Machines (IBM) mainframe to copy these large, software-dependent data files. Specifically, Archives officials had acknowledged that the Machine-Readable Branch would continue to use the National Institute of Health's facilities to copy, preserve, and process large data files with block sizes greater than 12,228 characters, up to the then current IBM maximum of 32,000.

We found that the Archives followed accepted standards and guidelines in planning this procurement, that the agency adequately defined the functional requirements and constraints to be addressed by the contractor, and that the limitations on tape file sizes were well understood and considered prior to the procurement. In summary, we found that these allegations are without substantive merit.

(2) Upgrade of the Prime 250 II Computer

The Archives employee alleged that in 1984, Archives officials upgraded the original Prime 250 II to a Prime 9750 to copy and preserve machine-readable tapes, but the Prime 9750 could not be used to copy tapes, and as a result, the Prime was underused.

This allegation is incorrectly based on the assumption that the Prime 9750 was purchased primarily to copy and preserve machine-readable

tapes. The requirements analysis and other evidence concerning the circumstances of the 1984 procurement reveals that the primary purpose of the Prime 9750 was to support a wide range of Office of the National Archives automated data processing (ADP) activities. Supporting the tape copying functions of the Machine-Readable Branch was considered a secondary function.

Our evaluation of documentation shows that in January 1984, the Archives¹ had amended its 5-year strategic ADP plan to replace its obsolete Four Phase computers because the Archives was having problems with system maintenance and was unable to correct significant deficiencies. The Four Phase equipment provided computer assistance and data entry to a basically manual system of describing and controlling records transferred to the Archives. The plan's requirements analysis indicates that the Four Phase equipment was obsolete² and would not support the demands being placed on it, especially those associated with the Office of the National Archives' NARS A-1 database.³

Accordingly, in May 1984, while still under the General Services Administration's purview, the Archives published, in the Commerce Business Daily, a notice of its intent to procure ADP equipment from the General Services Administration's schedule to replace obsolete Four Phase computer equipment. Documentation shows that after reviewing bids received from various contractors (such as Digital, Harris, Inforex, Nixdorf, Prime, and Stratus), the Archives selected Prime as the successful bidder. After the award to Prime had been decided, the Archives selected a Prime 850 system to upgrade its Four Phase equipment. Before the new computer was delivered, however, Prime introduced its then state-of-the-art 9750 model computer. Archives officials amended the contract and substituted the Prime 9750 for the Prime 850, at no additional cost to the government, and with a 50 percent increase in capacity. When the Archives found it could obtain this larger computer at no additional cost, the Archives decided to maximize its use of the Prime 9750 by trading in the old Prime 250 II and having the Prime

¹Effective April 1, 1985, the National Archives and Records Administration was established as an independent agency (P.L. 98-497). Prior to this time, the Archives was a component of the General Services Administration and conducted its strategic planning for information and systems technology within the General Services Administration's planning process.

²General Services Administration's 1984 Federal Information Resources Management Regulation, Bulletin 5, declared the Four Phase IV/70 equipment obsolete.

³The NARS A-1 system provides control over permanently valuable federal records accessioned into the Archives.

9750 take over its functions. Thus, although it was a bigger machine, the Prime 9750 was still principally intended for meeting the range of requirements of the Office of the National Archives, as stated in the request for proposals, rather than copying tapes.

The allegation that the Prime 9750 was underused is correct. Our evaluation of documentation shows that the underuse was principally due to subsequent difficulties encountered in migrating Four Phase applications to the Prime 9750. For the most part, these difficulties appear to have stemmed from the Archives' lack of sufficient programming staff. Both an internal Archives study and a study by American Management Systems, Inc., document the critical shortage of trained systems programmers and operators at the Archives. As a consequence of this condition, Archives officials stated that the only option available was to contract out for programming services needed to migrate Four Phase data to the Prime 9750. Officials stated that the design phase of the programming requirements have been satisfied and that the actual data transfer will occur during the summer of 1988.

Officials in the Office of Management and Administration and the Office of the National Archives stated that the Prime 9750 is being used to copy and preserve tapes of a certain standard format. The copying of tapes not in a standard format requires specialized software that is not available off-the-shelf. The Archives has let a \$10,000 contract with Prime to develop this software in accordance with technical requirements developed by the Archives' Machine-Readable Branch. Archives officials have told us that, to date, the contractor has yet to deliver software meeting the contract requirements.

On the basis of the evidence we collected, we found that the Archives clearly documented all significant procurement events and transactions, and that competent personnel developed an acquisition strategy that is consistent with the Archives' strategic plans and supports the Archives' mission and objectives. Additionally, we found that responsible officials used reasonable control techniques to ensure that user functional and data requirements were met. Therefore, we conclude that this allegation is without substantive merit.

(3) Purchase of Another Prime Computer (Model 2655)

According to the Archives employee, in 1985 the Archives purchased another Prime for the Trust Fund's Service Order System, even though

the Prime 9750 had unused capacity. The Archives now has two computers doing what one computer could do; the system has continually failed because users had not been involved in defining the requirements; and the users' needs were not being met in such basic applications as printing of mail labels.

Our examination of the evidence revealed that the need for a separate computer had been established as a result of several studies that addressed ways to improve the financial management of the Trust Board Fund's operations, specifically the activities of the Cashier's Office. The Archives' documentation shows that, after considering various alternatives, the Archives concluded that, although the Prime 9750 had unused capacity, the use of that system would not allow them to impose the access restrictions essential for appropriate financial control of the Trust Fund because this Prime 9750 is open to all system users.

Our evaluation of the evidence shows that the Archives did not specifically set out to purchase another Prime computer. The Archives issued a request for proposals and awarded a contract to Automated Engineering, Inc., to automate the Trust Fund's service order and financial management activities. The deployment of a Prime Model 2655 was a key feature of the successful bidder's proposal to maintain appropriate financial controls and document the Trust Fund's Service Order System. Therefore, a separate computer system, Prime 2655, was purchased and implemented as an element of the Service Order System contract, in part to ensure that only the Service Order Center would have access to Trust Fund transactions.

The evidence also shows that the users were involved in the requirements analysis. For example, we found documents indicating that prior to system implementation, the Office of Management and Administration held at least 15 meetings with users in the Office of the National Archives.

Our examination of the Archives' records and our interviews of the system's users indicate, however, that significant problems were encountered during the early stages of the Service Order System implementation. These problems made necessary some early modifications to the system. For example, after implementation, top management learned that the Office of the National Archives had underestimated the actual number of system users. Further, the Office of Management and Administration subsequently discovered that the Archives building had 30-year old telephone lines that would neither provide the quality nor

the quantity of signal processing needed to support the Service Order System activities. As a result, the Archives found itself with a system that was not well suited to support users. For instance, during the first 3 months of implementation, the system was slow and the hotline established to help users was constantly busy. Further, because the system was not user-friendly and lacked appropriate safeguards and controls, the users were generally frustrated and dissatisfied with the Service Order System.

We found, however, that as a result of remedial actions taken by the Archives, the system is currently satisfying user needs. For example, in the first 6 months of the Service Order System operation, the Office of the National Archives formally established a users' group responsible for overcoming system problems. Within a year, the users' group, working with the Office of Management and Administration, made extensive modifications to the software. Users told us that the system now enhances their productivity and that the problems encountered in the first year of implementation have been resolved. On the basis of our observations, the Service Order System appears to be operating effectively, providing immediate and efficient on-line response to users.

The specific allegation that the system is currently unable to print mailing labels is not true. Our evidence indicates that the Prime 2655 always had the capability of making labels. Initially, however, its usefulness in this regard was hampered by software limitations that allowed users to print labels only at the end of a transaction and required users to perform the time-consuming and cumbersome task of resetting the printer tractor at the end of each transaction. This situation has improved. The user's manual describes various ways of printing labels as well as other software enhancements, such as special screens and print options. For instance, users are prompted by special screen commands and have the option to print one label, a batch of labels, or no mail labels. We observed the use of these print options and saw that mail labels were easily printed.

To summarize our findings regarding the allegations about the purchase of a second Prime computer for the Service Order System: we found that the Prime 2655 was justifiably procured in support of the Trust Fund's mission; that users were involved in the requirements analysis, installation, and modification of system operations; and that, to the extent we analyzed alleged problems, the system now has no significant adverse effect on the efficiency or effectiveness of program operations. We note,

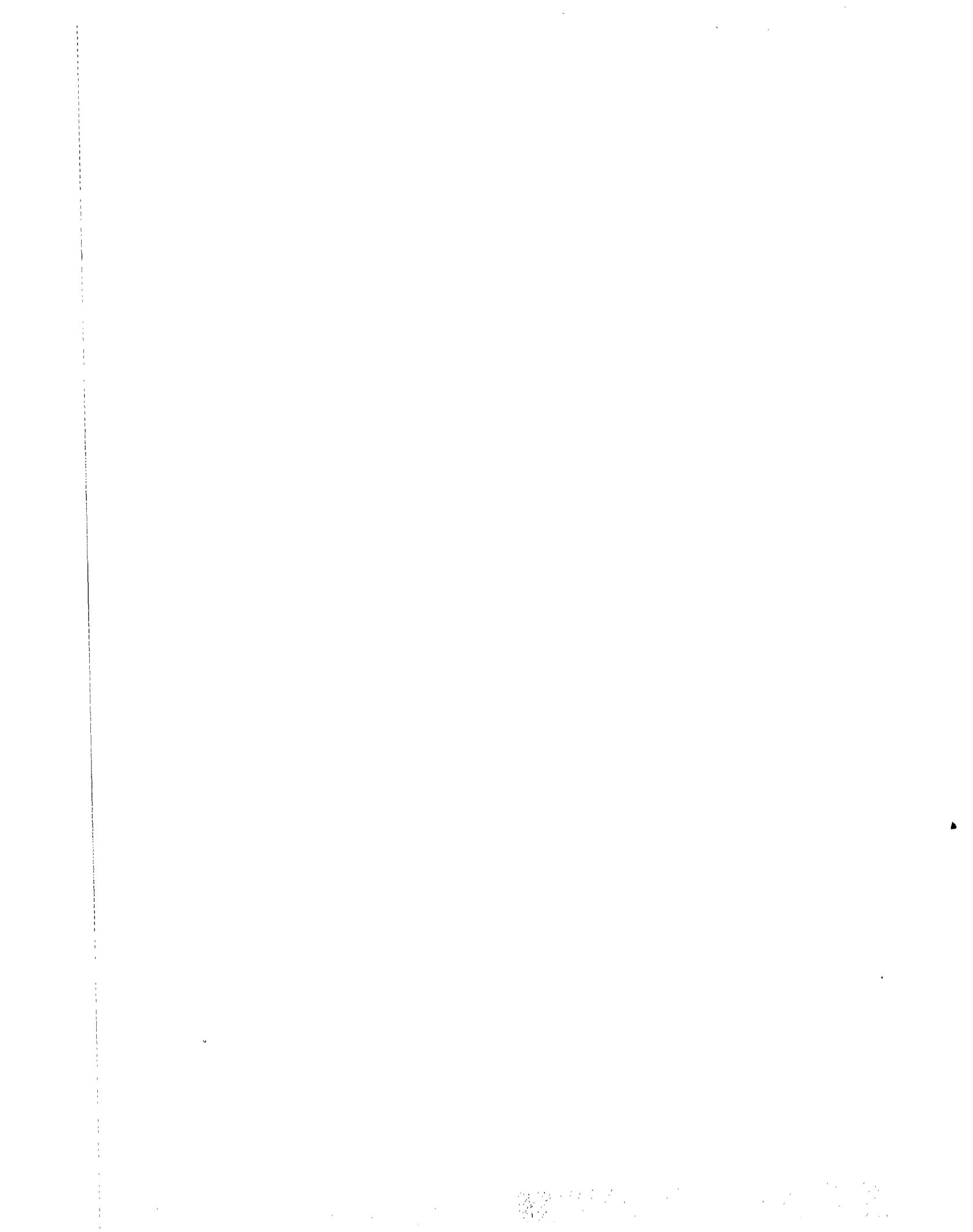
however, that the allegation regarding poor system performance had been true at some time in the past.

(4) The Archives' Investigation Was Flawed

The Archives employee alleged that the investigation of the Prime 9750, conducted by the Archives Audits and Compliance Staff, was flawed because it did not address user dissatisfaction with the Service Order System.

We reviewed the case file of the Archives' internal review and found that the Archives' investigation focused on assertions made by an Archives employee that the Archives purchase of the Service Order System was unnecessary and not cost effective because the Archives already had a Prime 9750 that was not being fully used. User dissatisfaction with the system had not been raised as an issue when the Archives initiated the internal review. We found documented evidence in the Archives case file that showed that in the course of its investigation, the Audits and Compliance Staff had contacted the individuals suggested by the complainant. We found no evidence that these individuals expressed any dissatisfaction with the system because it did not meet their needs.

We further observed that the Archives case file is well organized, clearly documented, indexed, and reviewed. The file presents evidence that supports our reported findings—that the Prime 9750 was underused primarily because of difficulties in migrating applications to the new equipment, and that the subsequent purchase of the Service Order System's Prime 2655 had been adequately justified as cost efficient and supportive of the Archives' operating mission. In view of these findings, we conclude that this allegation is without substantive merit.



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

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