

GAO

Report to the Honorable
Edward C. Aldridge, Jr., the Secretary of
the Air Force

March 1987

SYSTEM EFFECTIVENESS

Making Air Force's Acquisition Management Information System More Useful



132379

038239

.....

|

|

|

|

|

|

|



Information Management and
Technology Division

B-224077

March 11, 1987

The Honorable Edward C. Aldridge, Jr.
The Secretary of the Air Force

Dear Mr. Secretary:

As part of our continuing review of federal computer systems, we have completed a study of the Air Force Acquisition Management Information System (AMIS). This automated system, located at Wright-Patterson Air Force Base, Ohio, was developed by the Air Force Systems Command in the mid-1970s. The system was developed to help the Command manage contract initiation, administration, and disbursement functions through the use of continuously updated data bases with communication capabilities between procurement and contract administration personnel. Major system users are the Air Force Systems Command's buying offices and its Contract Management Division, as well as the Division's plant representative offices.

All users are dependent on the system for administering over 50,000 contracts and 350,000 modifications, delivering about 1.2 billion contract-line-items¹ in a timely manner, and ensuring that contract payments are correct—about \$22 billion annually for the Command alone as of November 18, 1986. In addition, according to the Division's Deputy for Contracting Administration, the system has provided information that was formerly either unavailable or impossible to obtain through any other means. For example, managers can obtain information on contract dollar-volume projections, excess funds analyses, and workload assessments.

We have assessed the system's effectiveness in providing needed support to contract administration and disbursement operations. This report, the first of two, addresses contract administration support; the second addresses internal controls over the Division's disbursement process.

In our opinion, this system's effectiveness in providing contract administration support can be gauged by the degree to which users can rely on it when carrying out their responsibilities. We found that the system

¹Contract-line-items are discrete items which are expected to have a single unit or total price, are separately identifiable, and have separate delivery schedules, periods of performance, or completion dates. A contract can contain from one to several thousand line items. For example, the Air Force's basic contract for the F-15 aircraft has 17,170 contract-line-items.

saved users significant time when retrieving contract information. This, in turn, allowed the Division to manage, with no increase in authorized staff, a contract-line-item workload that has doubled since the mid-1970s, as well as disbursement responsibilities that have increased from \$34 million to \$99 million per day over the same period. The significance of the time saved was illustrated when a Division official told us how the system was used twice monthly to ascertain the status of contract-line-items and to determine which contracts were completed and should be closed. Each query took about 3 minutes, but obtaining similar information manually was estimated to take 40 hours per query. We were told that other Division users made about 200 similar queries each month. However, use of the system was hampered because:

- The system's data bases were inaccurate and incomplete, thus encouraging potential users to rely on manual records for the information they needed.
- Potential users lacked training, which discouraged them from using the system.

Also, the system was not as effective as it could have been because:

- The lack of a required disaster recovery plan meant the Command could not ensure continuing computer support in the event of a disaster.
- Required audits had not been performed to ensure that the system's needed internal controls were in place and functioning properly.

We believe that by establishing data integrity criteria and periodically reviewing compliance, the Command can ensure data base integrity and completeness. Also, the Command can improve overall system usage and effectiveness by addressing user-training needs and performing required audits of the system's internal controls. Lastly, the Command can ensure continued computer processing of the data during a complete system failure or emergency by developing and testing the required disaster recovery plan.

Background

The Air Force Systems Command has responsibility for buying aerospace systems and equipment for the Air Force. To accomplish this mission, the Command has buying offices or divisions that initiate contracts. The Air Force Contract Management Division administers these contracts for the Command based on information provided by Air

Force plant representative offices. Sometimes, however, Command contracts are for work at a contractor location that has a plant representative from another military service who is responsible for administering the Air Force contract. Similarly, Air Force plant representatives must sometimes administer a contract for another service.

The Acquisition Management Information System was designed to permit immediate access to current contractual information. Since 1977, the system has supported both the management information and the disbursement information needs for the Command's contracting administration operations. The system allows buying, administration, and paying office users throughout the country to enter, change, or retrieve specific data. These data are entered during the contracting pre-award phase, as contract documents are written, as deliveries occur, as payments are made, and as contracts are closed out. To be current and complete, the system needs information from Command as well as non-Command activities like the Army, the Navy, the Defense Logistics Agency, and the Air Force Logistics Command. The source of needed information varies, depending on who initiated the contract (the buying office), who is administering the contract (the plant representative office), and who is paying the contract expenses (the paying office). For example, the Command may be administering a contract initiated and being paid for by the Navy or the Command may be administering a contract which it initiated and for which it is paying.

Objective, Scope, and Methodology

Our objective was to determine whether this system is providing the Air Force Systems Command effective and efficient contract administration information support. To achieve this, we

- examined how the system was being used,
- measured the accuracy of the system's contract administration data,
- assessed user training, and
- determined whether there were other areas that needed attention to help ensure the system's effectiveness.

We conducted our review primarily at the system's program office at Wright-Patterson Air Force Base, Ohio. We also visited contractor plants, buying offices, and the Air Force Systems Command's Headquarters, Washington, D.C., and its Contract Management Division at Kirtland Air Force Base, New Mexico. During our review, from April 1984 to July 1986, we examined contract administration records and regulations and interviewed system users and officials to determine how the system

was being used and controlled. We measured the system's data accuracy by randomly selecting a stratified statistical sample of over 500 contract-line-items and comparing their more than 11,000 data elements to source document information obtained from over 80 contract administration and paying offices. Finally, we identified how users had been trained.

We performed our review in accordance with generally accepted government auditing standards. (See appendix I for more details on our objective, scope, and methodology and appendix II for details on our data sampling procedures.)

System Provides Benefits but Usage Lower Than Expected

The system has saved users time in getting needed contract management information when compared to the time it would have taken to obtain the same information manually, but usage has not met expectations. On the basis of our sample of 93 queries, we determined that it took an average of 4.6 hours less per query to use the system to gather information than it would have taken to gather similar information manually. For example, a Command buying office user prepared a report of financial information on all active contracts twice a month. Using the system to get the needed data took about 3 minutes per query; obtaining similar information manually was estimated to take over 4.5 hours. The system has also saved time when used, among other things, for determining whether quantities shipped by a contractor complied with the terms of the contract, gathering information to conduct price analyses, reconciling foreign military sales' payment claims, determining delivery and funding status, researching shipment data-line-item and funding status on orders, and identifying contracts that needed to be closed.

During this review, we experienced similar timesaving benefits when we used the system to locate the source documents needed to verify the system's data integrity. If the needed information for locating the source document was in the system and was correct, we could locate the source document in a few minutes. On the other hand, if the needed information was not in the system or was not correct, we spent more than 5 hours in some instances to manually locate the source document—if the source document could be located at all.

The system is currently queried about 40,000 times each month. Air Force System Command officials have stated that since there are thousands of potential users, system usage should be at least 100,000 queries each month or almost three times the number of queries made in

1985. Our examination of actual usage by different Air Force organizations over a 5-month period indicates that the 100,000 queries per month goal is reasonable. Two reasons why the system has not been used as much as expected are user perception that data bases were inaccurate and incomplete and inadequate user training—discussed in the following sections.

System Data Bases Are Inaccurate and Incomplete

The Command has procedures for verifying that data are accurately recorded in the system. Reviewers compare new data in the system with data in the source document. However, the Command does not conduct periodic reviews to verify and document the accuracy of their data bases. Moreover, even if they had such reviews, they have no criteria for judging the significance of any errors that they might find. In addition, of the 100 actual and potential users we interviewed, 29 did not believe the data bases were accurate and reliable, and 46 did not believe the data bases were complete. Our tests indicated that the data recorded in the system were not always accurate or complete.

We conducted a statistical test of the system's data integrity using a stratified sample.² Although no criteria existed for evaluating the significance of an error, Command officials told us that 90-percent accuracy was needed for making effective contract management decisions. System officials said that the 23 data elements we evaluated for each contract-line-item were important to effective contract management and would give a good representation of the system's contract administration data bases. We found that accuracy of the data for the five strata we looked at varied in terms of the number of data elements with less than 90-percent accuracy, that is, 5 for Air Force Logistics Command; 10 for Air Force Systems Command; 10 for Navy; 12 for Army; and 16 for Defense Contract Administration Services. Of the total 11,134 items compared to source documents (517 contract-line-items times 23 data elements less the 757 source documents that could not be located by the accountable office), we found 2,225 had an error or an omission. Of the 2,225,

- 1,082 had no data entered into the system when there should have been,
- 1,004 had inaccurate data entered into the system, and

²Stratified sampling refers to the situation in which the universe is divided into two or more parts (strata) and a random sample is selected from each part (stratum). We established separate strata for contract-line-item information for the Air Force Systems Command, Air Force Logistics Command, Army, Navy, and Defense Contract Administration Services because system officials told us there were differences in the data integrity for each stratum.

-
- 139 had zeros “plugged” into the system when there should have been data other than the zeros.

We found that only two data elements (last modification and first scheduled delivery data elements) were consistently below the 90-percent criterion for all five strata. The accuracy of the other data elements varied in that they were sometimes below the required 90-percent accuracy and sometimes above for each stratum. Also, we found that data elements such as the last contract modification number, item description, the first scheduled delivery, and the establishing modification number contained a large number of the errors. For example, 206 of the 403 data errors in our sample for the Air Force Systems Command stratum were contained in 4 of the 23 data elements evaluated. (See appendix II for more detail on our methodology and the results of our evaluation.)

We could not determine the cause for the 2,225 errors or omissions, because (1) the data omissions had no audit trail, (2) several errors were as much as 8-years old, and (3) the individual who had entered the data could not be identified since records are not kept of the numerous changes to an individual’s identification code. Division supervisors and other Air Force officials told us that these system data accuracy problems were probably caused by improperly prepared source documents, weak input controls, and failure to update certain data elements promptly.

Other Air Force officials at several contractor activities also told us that contract information was not being entered in a timely manner, thus data were inaccurate because they were not current. We monitored how the Air Force Contract Management Division took data from contract documents for input to the system. We tracked 53 contractual documents being sent to the Division from two contractor plants during our visit and found that information from the documents was not always accurately or promptly entered into the system. Of the 53 contractual documents, 30 had been accurately entered into the system, 5 had been entered but contained data errors, and 18 had not been entered even though 3 months had passed since their receipt by the Division. The Division official responsible for getting the data entered into the system gave us several possible reasons for delays and mistakes:

- Contractual documents get lost in the process.
- Documents or certain information in documents are overlooked or entered incorrectly.

- Personnel at the contractor plants or procurement offices had to be contacted to obtain information so that document corrections could be made.

Although we did not determine the cause of the errors that we observed, the Air Force's reasons call into question whether the existing procedures ensure that system data are reconciled with input data in a periodic and timely manner so necessary corrections can be made³

The Department of Defense, in their comments on a draft of this report, told us that the Command had improved training and tightened system quality controls—actions expected to improve the system's data accuracy. In addition, the Command expects to have data accuracy criteria established by July 1987 and to conduct annual reviews to ensure that the data meet these criteria.

Inadequate User Training Has Impeded System Use

Air Force Regulation 700-6, "Information Systems Operations Management," makes information system managers responsible for educating users on the proper use of their systems. We believe that there is an important relationship between user training and effective use of a system. The regulation also states that these managers will provide help to users in resolving the various operating problems that they encounter. The training that has been available to system users has been inadequate primarily because the Air Force Systems Command has not (1) assigned clear responsibility for training users, (2) provided sufficient training resources, and/or (3) identified what training users should receive.

To obtain information from the system, a user needs to know what information is available and how to access it. The system contains 2,915 discrete data elements that are intended to help contract clerks, supervisors, and other contract administration personnel do their jobs more quickly and efficiently. The system can quickly satisfy a user's need for information, such as detailed price analyses, delivery and funding status, shipment data, and extent of contract completion. However, to get the needed information, a user must employ the correct query from among 255 preformatted information retrieval queries. If a preformatted query will not get the needed information, a user can

³Title 2 of GAO's Policy and Procedures Manual for Guidance of Federal Agencies, Appendix II, "Internal Controls"

tailor a query—but this requires even more knowledge about the system and its query language.

In 1981, the Air Force Systems Command gave its Contract Management Division responsibility for training both personnel who enter information for storage into the system and personnel in Air Force plant representative offices. The Division implemented some training programs and designated a person at each of its 27 plant representative offices to provide that training and to help solve operating problems as they occurred. However, the training emphasized how to enter information into the system, rather than how to query the system for information. Moreover, these plant representative offices account for only half of the system's expected use. For the remaining expected use, 42 percent is anticipated to originate from other Air Force activities, and 8 percent will probably be from the other military services. These organizations have neither system contact points nor anyone who clearly has responsibility for training their system users.

The system's program office, which is responsible for developing the preformatted queries and making needed system enhancements, recognized that there was a need for better user training. Even though the program office did not have the responsibility or resources to provide training, it has provided some on-site training to contract administration personnel and data base management system classes, and developed computer-aided instruction courses. Nevertheless, we found that there were contract administration personnel who were not using the system because they did not have the training to use its information retrieval or query capabilities. Instead, they used manual records and processes, which required more time. There are about 6,000 contract administration personnel in 27 contractor plants and about 20 other locations throughout the country. We interviewed 100 contract administration personnel in 3 contractor plants and 7 other locations and found that 64 percent were self-taught and 30 percent had received some formal training on the use of the system. However, 77 percent of those we interviewed said that additional training would help them do their jobs more effectively. (See appendix III for more information about user training.)

Since June 1985, the system's program office has taken several other steps to improve user training. The office has (1) developed a 6-hour training course for system contact personnel; (2) conducted individual user training, for about 40 people at two work sites; (3) established a focal point within the program office to assist users by telephone; (4) started developing a data-element dictionary to help users understand

what information is in the system; and (5) asked the Air Force's Air Training Command to help develop and conduct a system-user orientation training program.

Disaster Recovery Plan and Internal Control Audits Needed

We also found that the Command has not developed and periodically tested a system disaster recovery plan nor periodically conducted reviews of the system's contract administration controls and data integrity. These actions would help to ensure the system's effectiveness.

Required Disaster Recovery Plan Does Not Exist

The Air Force is extremely dependent upon the automated capabilities of the system and the contract information that it contains. However, there is no disaster recovery plan for the system to ensure continuity of computer support should normal computer operations be disrupted. Since 1978, federal agencies have been required to have recovery plans for maintaining continuity of computer operations in the event of a disaster.⁴ Additional policy and guidelines on responsibility for the development and implementation of these plans are contained in GAO's guidance on internal controls⁵ and are most recently addressed in Office of Management and Budget Circular A-130.⁶

Air Force Regulation 700-6,⁷ "Information Systems Operations Management," (dated March 15, 1985) states that information systems managers will establish emergency plans for continued operation of information systems under adverse conditions. Also, according to Air Force Regulation 700-7, "Information Processing Center Operations Management," (dated March 15, 1985) a well-developed recovery plan should identify the user support needed from the computer system and should reduce the risk of loss to the government through inaccessibility to information and loss of control over computer resources. Air Force Regulation 700-10, "Information Systems Security," (dated March 15, 1985) states that risk management for an information system includes

⁴Office of Management and Budget Circular A-71, Transmittal Memorandum No. 1, Security of Federal Information Systems, July 27, 1978

⁵Title 2 of GAO's Policy and Procedures Manual for Guidance of Federal Agencies, Appendix II, "Internal Controls"

⁶Office of Management and Budget Circular No. A-130, Management of Federal Information Resources, Appendix III, "Security of Federal Automated Information Systems," Dec. 24, 1985

⁷These 700 series Air Force regulations consolidated management responsibilities and guidance from prior Air Force regulations dating from June 10, 1975

tests that prove the measures in place fulfill defined requirements. Office of Management and Budget Circular No. A-130 states that when essential agency functions are involved, the plan should be fully documented and tested at a frequency commensurate with the risk and magnitude of loss or harm that could result from disruption of the system's support. The purpose of these tests is to determine whether designated computer backup and personnel procedures adequately maintain needed continuity of the system's operation and availability of essential information.

In October 1982, a Command Inspector General memorandum stated that the Aeronautical Systems Division Computer Center (at Wright-Patterson Air Force Base, Ohio, where the system's information is processed) was "critical to the payment of a significant portion of Air Force contractors. Even a few days shutdown would result in substantial payment of interest to contractors due to delayed payments."⁸

In April 1986, Command officials told us that until recently they thought that existing Division personnel could provide needed disbursement backup should a computer disaster occur. However, they now believe that increased disbursement workloads necessitate computer-backup capabilities. Defense, in their comments on a draft of this report, told us that the Command expected to have its plan completed by June 1987 and that the plan would be periodically exercised in conjunction with the computer center's total recovery plan.

Required System Control Reviews Have Not Been Performed

Required reviews of the system's general and application controls are not being conducted. GAO auditing standards⁹ require that auditors of federal activities review the general and application controls of operating computer systems. Also, when agencies are performing their Federal Managers' Financial Integrity Act (31 U.S.C. 3512(B) and (C)) evaluations, they are to verify that proper general and application controls exist and are working. The purposes of such audits and evaluations are to determine whether these controls (1) have been designed according to management direction and legal requirements, (2) operate effectively to provide security over the data being processed, and (3) process data in a timely, accurate, and complete manner. The reviews

⁸Memorandum on "ASD Computer Center Vulnerability," dated October 5, 1982.

⁹Standards For Audit of Government Organizations, Programs, Activities, and Functions, February 27, 1981, and GAO's March 1979 booklet, Additional GAO Audit Standards, Auditing Computer-Based Systems.

and evaluations are also intended to help managers ensure that needed internal controls are in place and that they are functioning properly

The Air Force Audit Agency is responsible for auditing this system. According to the agency official responsible for such audits, the system has not been audited because the agency has had other higher priority audits to perform. Also, the official stated that the agency had planned to start an audit in 1984, but canceled it when the agency was informed of our work. In August 1985, the system program office, although not responsible for performing these reviews, requested that the office be provided personnel to periodically evaluate the system's internal controls and data integrity. However, Defense, when commenting on the draft of this report, said that the program office would be periodically asking the audit agency to conduct such evaluations.

Conclusions

The Acquisition Management Information System has been a valuable, timesaving system for its users. However, additional significant and achievable time-savings have not been realized because certain system conditions have caused usage levels to be much lower than Air Force Systems Command officials expected. For example, the Command has not periodically reviewed critical contract administration data for accuracy and completeness. Furthermore, even if the Command had taken this step, it has not established criteria for judging the significance of any data errors found during such reviews. Although important to the effective management of over 50,000 contracts and the correctness of payments exceeding \$22 billion annually, inaccurate and incomplete data bases have been allowed to go uncorrected, which, in turn, has discouraged use of the system.

Also, the Command has not provided adequate user training; therefore, contract administration personnel have been limited in their ability to query the system—a capability that they must have to fully benefit from the system. The project office's recent efforts to improve user training could help, but until the Command decides what training users require and who should provide that training, there is no assurance contract administration personnel will receive needed training.

In addition, the Command has failed to follow required practices designed to help managers ensure that effective information system support is provided. The absence of a required disaster recovery plan, which the Command now plans to develop, has meant that the Command could not ensure that operations would be maintained in the event

of an emergency. Because the system has not been audited, as required, the Command has also been unable to ensure that needed controls are in place and working.

Correcting these conditions will render the system more usable, especially for managing contracts for the aerospace systems and equipment the Air Force uses to meet its national defense responsibilities.

Recommendations

We recommend that the Secretary of the Air Force direct the Commander, Air Force Systems Command, to

- establish acceptable system data integrity criteria, conduct periodic reviews of the system's data bases to determine their compliance with acceptable data integrity criteria, and, when necessary, take actions to ensure that system data are accurate and complete;
- determine what training system users need, what organizational component will be responsible for providing that training, and ensure that needed resources are available for providing the training; and
- periodically test the disaster recovery plan and make those changes needed to ensure that required support will be provided in the event of a disaster.

In addition, to ensure that the system's internal controls are properly in place and working and to satisfy GAO's Policy and Procedures Manual for Guidance of Federal Agencies and the intent of the Federal Managers' Financial Integrity Act, we recommend that the Secretary of the Air Force require periodic audits of the system's general and application controls.

Agency Comments

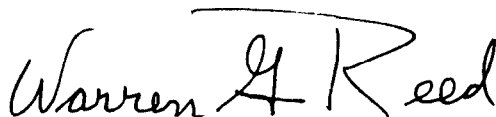
The Department of Defense agreed with our findings and recommendations and agreed to take steps to make the system more usable and effective. Although the causes of errors are not always identifiable, Defense believes that the following combined efforts in the areas of periodic data base reviews and training will both decrease the number of input errors and identify the causes in a more timely manner. System data accuracy criteria are being established and annual reviews will be conducted to ensure that the data meet the criteria. In addition, user training responsibility has been assigned to the system's program office. Defense also said that the Command will have its required disaster recovery plan completed shortly and will be periodically requesting that the Air Force Audit Agency conduct evaluations of the system's general

and application controls. Appendix IV contains Defense's specific comments.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report. A written statement must also be submitted to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report

We are sending copies of this report to the Secretary of Defense; the Chairmen, House and Senate Committees on Armed Services and on Appropriations, Senate Committees on Armed Services and on Appropriations, House Committee on Government Operations, and Senate Committee on Governmental Affairs; and the Director, Office of Management and Budget.

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

Contents

Letter		1
Appendix I		16
Study of Air Force Acquisition Management Information System	Objective, Scope, and Methodology	16
Appendix II		18
Accuracy of “Contract” And “DCAS” Data Bases		
Appendix III		26
Responses to Questions Asked of 100 Current or Potential System Users		
Appendix IV		27
Comments From the Department of Defense		
Tables		
	Table II.1: Contract-Line-Item Stratified Sample Distribution	18
	Table II.2: Status of Elements in the System’s Contract and DCAS Data Base at the Contract-Line-Item Level	20
	Table II.3: Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the Air Force Systems Command, System Contract-Line-Item	21

Table II.4 Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the Air Force Logistics Command, System Contract-Line-Item	22
Table II.5: Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the Army, System Contract-Line-Item	23
Table II.6: Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the Navy, System Contract-Line-Item	24
Table II 7. Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the System's DCAS Data Base, Contract-Line-Item	25

Abbreviations

AMIS	Acquisition Management Information System
ASD	Aeronautical Systems Division
DCAS	Defense Contract Administration Services
GAO	General Accounting Office

Study of Air Force Acquisition Management Information System

Objective, Scope, and Methodology

Our objective was to determine whether the Acquisition Management Information System (AMIS) was providing the Air Force Systems Command effective and efficient contract administration information support. To achieve this, we (1) examined how the system was being used, (2) measured the system's contract administration data accuracy, (3) assessed user training, and (4) examined opportunities for improving the system's effectiveness.

We conducted our review at the system's program office at Wright-Patterson Air Force Base, Ohio. We also visited contractor plants, buying activities, and the Air Force Systems Command Headquarters. We examined pertinent contract administration records and regulations and interviewed AMIS users and other officials to determine whether the system was being used efficiently and effectively. In addition, statistical analyses of system data bases were conducted to measure the accuracy of AMIS contract and payment information.

To assess the system's value, we reviewed 93 randomly selected user queries (i.e., information retrievals). This assessment was conducted between December 1984 and April 1985. Users were contacted and questioned about the query's value as soon as possible after completion of the query. To estimate the time saved using the system, we also asked these users to estimate how many times a month they had made a similar query and the time that it would have taken to obtain this information manually. We then estimated, on the basis of our analysis of system data related to these queries, that it took between 3 and 5 minutes to retrieve this information from the system. Finally, we compared the two estimates to calculate the time saved using the system, which averaged about 4.6 hours per query. To assess user satisfaction, we interviewed 100 actual and potential users¹⁰ at Air Force plant representative offices, Air Force air logistics centers and buying offices, and a Navy plant representative office. These users were not randomly selected because we wanted to interview a variety of users from each organization.

Data integrity was assessed by statistically comparing selected system data elements to source documents in both the system's Contract and Defense Contract Administration Services data bases. System officials

¹⁰Potential users are those individuals who were not currently using the system but would benefit from it. We selected these individuals because their counterparts at other activities were benefiting from using the system.

agreed that the elements we selected were important to contract management and that our analysis of them should provide a good indication of the system's data integrity. The analysis involved 25 data elements (reduced to 23 for this report¹¹) at the contract-line-item-number level, the first level in the data base for relating data to specific contracts. For the analysis, we stratified data from the Air Force Logistics Command, the Army, the Navy, and the Defense Contract Administration Services. The analysis involved a total of 517 contract-line-item numbers. To perform this analysis, we visited plant representative offices for the Air Force, Army, and Navy, as well as the Defense Logistics Agency and the Air Force Contract Management Division to obtain source documentation. Also, we sent 77 requests for source documentation to paying offices and contract administration offices throughout the United States. We were able to obtain 96 percent of the requested source document information, the remaining source documents could not be located by the accountable office. However, these source documents had little or no impact on our ability to project our results at the 95-percent confidence level. (See appendix II for a description of our statistical methodology and results of the analysis.)

Our review was conducted from April 1984 through July 1986 and was performed in accordance with generally accepted government auditing standards.

¹¹System officials agreed that three data elements (fixed disbursements, cost disbursements and fee disbursements) should be combined into the single data element "disbursements."

Accuracy of "Contract" And "DCAS" Data Bases

Between January and July 1985 we obtained, reviewed, and compared the source documentation for the 25 data elements for each of our selected, stratified random sample contract line items to the system's "Contract" and "DCAS" (Defense Contract Administration Services) data bases' information. This sample was drawn to allow a statistical analysis to be conducted of the data integrity and validity of Air Force System Command, Air Force Logistics Command, Army, Navy, and Defense Contract Administration Services contract-line-item data elements in the system's Contract and DCAS data bases.

Selection of Sample

To assist us in drawing a valid statistical sample, the system's program office provided us with a complete set of the system's Contract and DCAS data base backup tapes as of December 7, 1984. We then tested the tapes to verify that we had been given complete copies of the data bases and that the data matched the record formats we had been given.

Next, a number of programs were run to select the data elements needed for our analyses and to separate the universe of 1,147,083 contract-line-item entries into the five strata from which our samples were drawn. Using statistical sampling techniques, we drew random samples of approximately 100 contract-line-item numbers from each of the five strata. We identified about 100 items per stratum for analysis so we could project our results to the universe at the 95-percent confidence level.

Table II.1 identifies the five strata used in our study, their universe sizes, and the number of contract-line-items sampled from each.

Table II.1: Contract-Line-Item Stratified Sample Distribution

Strata	Universe size	Sample size
Air Force Systems Command	421,027	104
Air Force Logistics Command	415,572	101
Army	12,596	108
Navy	47,999	104
Defense Contract Administration Services data base	249,889	100
Total	1,147,083	517

System officials stated that the 25 elements we evaluated for each contract-line-item were important to effective contract management and would give a good representation of the system's Contract and DCAS data.

bases' integrity. They also agreed that the 5 strata were appropriate because there were recognized differences in the data integrity for these strata and that three data elements (fixed disbursements, cost disbursements, and fee disbursements) should be combined into the single data element "disbursements." Therefore, the original 25 data elements selected were reduced to 23 for this report.

Data-Gathering

To assess the accuracy of the 11,891 selected system data elements (517 X 23), we compared the system's data to source documentation, to the extent source documentation was available. We were able to obtain source documentation for 11,134 of the selected data elements. For the remaining 757 data elements, we were unable to obtain the needed source documents because they could not be located by the accountable office. These missing documents had little or no impact on our ability to project our results at the 95-percent confidence level.

To obtain the necessary source documentation, we visited plant representative offices for the Air Force, Army, Navy, as well as Defense Contract Administration Services Representative offices and the Air Force Contract Management Division. In addition, we sent 77 requests for source documentation to paying offices and administering offices throughout the United States. In total, we obtained 96 percent of the requested source documents. The remaining documents could not be located by the accountable office.

Statistical Analysis

The error rates found in each stratum for the 23 data elements reviewed were projected to each respective strata. No overall combined error rate was calculated for the AMIS Contract and DCAS data bases because there are five discrete organizational groupings in the data bases, each having its own unique requirements for the information in the data base. Appropriate statistical techniques were used to calculate upper and lower 95-percent confidence limits for the data elements error rates found and projected for each sample, that is, we are 95-percent confident that the true error rate lies between these limits. These error rates and confidence limits are presented in tables II.2 to II.7.

**Appendix II
Accuracy of "Contract" And "DCAS"
Data Bases**

Table II.2: Status of Elements in the System's Contract and DCAS Data Base at the Contract-Line-Item Level^a

Element	At Least 90-Percent Accurate				
	Air Force Systems Command	Air Force Logistics Command	Defense Contract Admin. Services	Navy	Army
Contract-Line-Item Number	Y	Y	Y	Y	Y
Contract-Line-Item Number Reference	N	Y	N	*	*
Progress Payment Rate	Y	Y	Y	Y	Y
Progress Recoupment Rate	Y	Y	Y	Y	Y
Disbursements	N	*	N	N	N
Last Modification	N	N	N	N	N
Item Project Manager	Y	Y	N	*	Y
Order Quantity	*	Y	*	*	N
Unit Price	*	*	N	*	N
National Stock Number	N	N	N	*	N
Acceptance Point	Y	*	*	*	Y
Free on Board site	Y	*	N	*	*
Item Description	N	*	N	N	N
Quantity Shipped	Y	*	N	N	N
Quantity Accepted	Y	*	N	N	N
Type Contract	*	N	*	N	*
Date of Last Shipment	*	*	N	N	N
Quantity Paid	N	*	N	N	N
Procurement Item Identification Number Order-Line	Y	Y	Y	Y	Y
Federal Supply Code for Manufacturers	N	*	N	N	*
Manufacturer's Part Number	N	*	N	*	N
First Scheduled Delivery	N	N	N	N	N
Establishing Modification	N	N	N	*	*
Data Elements Tested	2,094	2,319	2,040	2,207	2,474
Total number of records	421,027	415,572	249,889	47,999	12,596

^aA "Y" indicates that we are 95-percent confident that the data elements are at least 90-percent accurate. An "N" indicates we are 95-percent confident that the data elements are not at least 90-percent accurate. A "*" indicates elements where the confidence range for accuracy extends both above and below 90 percent, consequently, we are unsure if the element being examined meets the 90-percent accuracy requirement established by Air Force Systems Command officials as the minimum goal for this audit.

Appendix II
Accuracy of "Contract" And "DCAS"
Data Bases

Table II.3: Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the Air Force Systems Command, System Contract-Line-Item^a

Element description	Sample comparisons	Observed error rate (%)	Projected error rate ^b	
			Lower limit (%)	Upper limit (%)
Contract/Exhibit-Line-Item Number	94	2.1	0.6	7.4
Contract-Line-Item Number Reference	92	27.2	19.1	37.0
Progress Payment Rate	86	0.0	0.0	4.3
Progress Recoupment Rate	86	0.0	0.0	4.3
Disbursements ^c	95	23.2	15.8	32.6
Last Modification	86	45.3	35.3	55.8
Item Project Manager	86	3.5	1.2	9.8
Order Quantity	91	4.4	1.7	10.8
Unit Price	92	8.7	4.5	16.2
National Stock Number	94	38.3	29.1	48.4
Acceptance Point	94	2.1	0.6	7.4
Free on Board site	94	2.1	0.6	7.4
Description	94	59.6	49.5	68.9
Quantity Shipped	91	2.2	0.6	7.7
Quantity Accepted	91	2.2	0.6	7.7
Type Contract	89	10.1	5.4	18.1
Date Last Shipment	91	7.7	3.8	15.0
Quantity Paid	95	23.2	15.8	32.6
Procurement Item Identification Number Order-Line	94	1.1	0.2	5.8
Federal Supply Code for Manufacturers	94	28.7	20.6	38.6
Manufacturer's Part Number	94	24.5	16.9	34.0
First Scheduled Delivery	86	70.9	60.6	79.5
Establishing Modification	85	58.8	48.2	68.7

^aUniverse Size 421,027

^bError rate was calculated using a 95-percent confidence limit

^cThis is not a reflection of disbursement control at the Air Force Contract Management Division because funds are sometimes controlled at a higher record level

**Appendix II
Accuracy of "Contract" And "DCAS"
Data Bases**

Table II.4: Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the Air Force Logistics Command, System Contract-Line-Item^a

Element description	Sample comparisons	Observed error rate (%)	Projected error rate ^b	
			Lower limit (%)	Upper limit (%)
Contract/Exhibit-Line-Item Number	101	1.0	0.2	5.4
Contract-Line-Item Number Reference	101	4.0	1.6	9.7
Progress Payment Rate	101	0.0	0.0	3.7
Progress Recoupment Rate	101	0.0	0.0	3.7
Disbursements ^c	101	5.9	2.8	12.4
Last Modification	101	47.5	38.1	57.2
Item Project Manager	101	0.0	0.0	3.7
Order Quantity	101	3.0	1.0	8.4
Unit Price	101	10.9	6.2	18.5
National Stock Number	101	19.8	13.2	28.6
Acceptance Point	101	5.0	2.1	11.1
Free on Board site	101	7.9	4.1	14.9
Description	101	14.9	9.2	23.1
Quantity Shipped	101	5.9	2.8	12.4
Quantity Accepted	101	5.9	2.8	12.4
Type Contract	101	23.8	16.5	32.9
Date Last Shipment	101	15.8	10.0	24.2
Quantity Paid	101	6.9	3.4	13.6
Procurement Item Identification Number Order-Line	101	2.0	0.5	6.9
Federal Supply Code for Manufacturers	101	11.9	6.9	19.6
Manufacturer's Part Number	101	13.9	8.4	21.9
First Scheduled Delivery	100	47.0	37.5	56.7
Establishing Modification	98	18.4	11.9	27.2

^aUniverse Size 415,572

^bError rate was calculated using a 95-percent confidence limit

^cThis is not a reflection of disbursement control at the Air Force Contract Management Division because funds are sometimes controlled at a higher record level

Appendix II
Accuracy of "Contract" And "DCAS"
Data Bases

Table II.5: Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the Army, System Contract-Line-Item^a

Element description	Sample comparisons	Observed error rate (%)	Projected error rate ^b	
			Lower limit (%)	Upper limit (%)
Contract/Exhibit-Line-Item Number	108	1.9	0.5	6.5
Contract-Line-Item Number Reference	108	12.0	7.2	19.5
Progress Payment Rate	108	0.0	0.0	3.4
Progress Recoupment Rate	108	0.0	0.0	3.4
Disbursements	108	48.1	39.0	57.4
Last Modification	107	48.6	39.4	57.9
Item Project Manager	108	0.0	0.0	3.4
Order Quantity	108	15.7	10.1	23.7
Unit Price	108	32.4	24.3	41.7
National Stock Number	108	20.4	13.9	28.9
Acceptance Point	108	1.9	0.5	6.5
Free on Board site	108	4.6	2.0	10.4
Description	108	26.9	19.4	35.9
Quantity Shipped	108	26.9	19.4	35.9
Quantity Accepted	108	25.9	18.6	34.9
Type Contract	106	10.4	5.9	17.6
Date Last Shipment	108	29.6	21.9	38.8
Quantity Paid	108	48.1	39.0	57.4
Procurement Item Identification Number Order-Line	108	1.9	0.5	6.5
Federal Supply Code for Manufacturers	106	9.4	5.2	16.5
Manufacturer's Part Number	108	18.5	12.3	26.8
First Scheduled Delivery	106	49.1	39.8	58.4
Establishing Modification	105	9.5	5.3	16.6

^aUniverse Size 12,596

^bError rate was calculated using a 95-percent confidence limit

Appendix II
Accuracy of "Contract" And "DCAS"
Data Bases

Table II.6: Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the Navy, System Contract-Line-Item^a

Element description	Sample comparisons	Observed error rate (%)	Projected error rate ^b	
			Lower limit (%)	Upper limit (%)
Contract/Exhibit-Line-Item Number	96	0.0	0.0	3.8
Contract-Line-Item Number Reference	96	8.3	4.3	15.6
Progress Payment Rate	96	0.0	0.0	3.8
Progress Recoupment Rate	96	0.0	0.0	3.8
Disbursements	97	24.7	17.2	34.2
Last Modification	96	27.1	19.2	36.7
Item Project Manager	96	5.2	2.2	11.6
Order Quantity	96	14.6	8.9	23.0
Unit Price	96	13.5	8.1	21.8
National Stock Number	96	8.3	4.3	15.6
Acceptance Point	96	4.2	1.6	10.2
Free on Board site	96	5.2	2.2	11.6
Description	96	38.5	29.4	48.5
Quantity Shipped	95	34.7	25.9	44.7
Quantity Accepted	95	34.7	25.9	44.7
Type Contract	96	41.7	32.3	51.7
Date Last Shipment	95	35.8	26.9	45.8
Quantity Paid	98	25.5	17.9	34.9
Procurement Item Identification Number Order-Line	96	0.0	0.0	3.8
Federal Supply Code for Manufacturers	96	24.0	16.5	33.4
Manufacturer's Part Number	96	15.6	9.7	24.2
First Scheduled Delivery	96	37.5	28.5	47.5
Establishing Modification	95	15.8	9.8	24.4

^aUniverse Size 47,999

^bError rate was calculated using a 95-percent confidence limit

**Appendix II
Accuracy of "Contract" And "DCAS"
Data Bases**

Table II.7: Confidence Limits for Error Rate Percentage Found for Selected Data Elements in the Sample of the System's DCAS Data Base, Contract-Line-Item^a

Element description	Sample comparisons	Observed error rate (%)	Projected error rate ^b	
			Lower limit (%)	Upper limit (%)
Contract/Exhibit-Line-Item Number	90	2.2	0.6	7.7
Contract-Line-Item Number Reference	90	26.7	18.6	36.6
Progress Payment Rate	89	0.0	0.0	4.1
Progress Recoupment Rate	89	0.0	0.0	4.1
Disbursements	88	58.0	47.5	67.7
Last Modification	89	65.2	54.8	74.3
Item Project Manager	88	75.0	65.0	82.9
Order Quantity	88	6.8	3.2	14.1
Unit Price	89	22.5	15.0	32.2
National Stock Number	88	34.1	25.0	44.5
Acceptance Point	89	9.0	4.6	16.7
Free on Board site	89	18.0	11.4	27.2
Description	89	36.0	26.8	46.3
Quantity Shipped	89	22.5	15.0	32.2
Quantity Accepted	89	21.3	14.1	31.0
Type Contract	88	4.5	1.8	11.1
Date Last Shipment	89	60.7	50.3	70.2
Quantity Paid	88	65.9	55.5	75.0
Procurement Item Identification Number Order-Line	89	2.2	0.6	7.8
Federal Supply Code for Manufacturers	88	46.6	36.5	56.9
Manufacturer's Part Number	89	68.5	58.3	77.2
First Scheduled Delivery	88	62.5	52.1	71.9
Establishing Modification	88	55.7	45.3	65.6

^aUniverse Size 249,889

^bError rate was calculated using a 95-percent confidence limit

Responses to Questions Asked of 100 Current or Potential System Users

Responses of users and potential users				
Questions asked users	Yes	No	Sometimes	Not applicable or no response^a
Do you use AMIS?	82	18	•	•
Is AMIS accurate and reliable?	55	13	11	21
Is the data in AMIS complete?	33	38	8	21
Is AMIS available when needed?	71	5	3	21
Is AMIS useful?	66	8	5	21
Are you aware of records which duplicate information in AMIS?	61	27	•	12
Did you receive on-the-job training?	64	33	•	3
Did you receive formal classroom training?	29	67	•	4
Been instructed in AMIS use by co-workers?	40	56	•	4
You trained yourself?	62	35	•	3
Training was trial and error?	59	37	•	4
Do you feel you need additional training?	77	11	•	12

^aNumber of individuals who either believed that these questions did not apply or chose not to respond

Comments From the Department of Defense



COMPTROLLER

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-1100

5 JAN 1987

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and International
Affairs Division
General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense response to the General Accounting Office (GAO) draft report, "SYSTEM EFFECTIVENESS: Making Air Force's Acquisition Management Information System More Useful," dated November 5, 1986 (GAO Code 510040/OSD Case 7165).

The Department of Defense concurs with the GAO findings and recommendations. Additional information addressing the findings and recommendations contained in the draft report is enclosed.

The Department appreciates the opportunity to comment on this draft report.

Sincerely,

A handwritten signature in cursive script, reading "John R. Quetsch".

John R. Quetsch
Principal Deputy Assistant Secretary of Defense
(Comptroller)

Enclosure

GAO DRAFT REPORT - DATED NOVEMBER 5, 1986
(GAO CODE 510040) OSD CASE 7165

"SYSTEM EFFECTIVENESS: MAKING AIR FORCE'S ACQUISITION
MANAGEMENT INFORMATION SYSTEM MORE USEFUL"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

FINDING A: Air Force Acquisition Management Information System (AMIS). The GAO noted that the AMIS was developed by the Air Force Systems Command (AFSC) to help that command manage contract administration and disbursement functions. The GAO found that both the Command and other users (buying offices and plant representatives for the other Services and other Air Force commands) are dependent on the system for contracts, modifications, delivery of contract line items and ensuring that contract payments are correct. In addition, the GAO noted that, according to the Air Force Contract Management Division's Director for Contract Administration, through the system's continuously updated data bases and its communications capabilities, the system is providing information that previously was either unavailable or impossible to obtain. The GAO observed, however, that to be current and complete, the system needs information from command as well as non-command activities. The GAO nonetheless concluded that the system is important to the effective management of over 50,000 contracts, and the correctness of payments exceeding \$20 billion annually. (pp. 1-2, pp. 4-6, p. 21/GAO Draft Report)

Now on pp 1-3 and p 12

DoD Position. Concur.

FINDING B: System Effectiveness. The GAO found that the AMIS system's effectiveness can be gauged by the degree that users can rely on it. The GAO found that the system saved users significant time. Based on its sample of 93 queries, the GAO found that on the average it took 4.6 hours less per query to use the system than it would have taken to gather similar information manually. The GAO cited, for example, a command buying office could obtain information for a semimonthly report of financial information on active contracts in three minutes using the system versus an estimated 4.5 hours manually. The GAO also found that the system is currently queried about 40,000 times each month. The GAO noted that AFSC officials have stated that, since there are thousands of potential users, system usage should be at least 100,000 queries each month, or 3 times the number of queries made in 1985. From its examination of actual usage by different Air Force organizations over a 5 month period, the GAO concluded that 100,000 queries a month would be a reasonable goal. The GAO also concluded that while the AMIS has been a valuable, time saving system for its users, additional significant and achievable time savings have not

been realized because certain system conditions have caused usage levels to be much lower than AFSC officials expected. The GAO found, for instance, that inaccurate and incomplete data bases have been allowed to go uncorrected, which, in turn, has discouraged users from using the system when carrying out their responsibilities. The GAO finally concluded, therefore, that correcting these conditions will render the system more usable, especially for managing contracts for the aerospace systems and equipment the Air Force uses to meet its national defense responsibilities. (pp. 2-3, pp. 7-9 and pp. 21-22/GAO Draft Report)

Now on p 2, pp 4 and 5,
and p 12

DoD Position. Concur. (See DoD response to Recommendation 1).

FINDING C: Lack of Criteria And Periodic Review. The GAO found that while the command has procedures for verifying data are accurately recorded in the system, it does not conduct periodic reviews to verify and document the accuracy of the system's data bases. Moreover, the GAO found that the Command has no criteria for evaluating the seriousness of errors its reviewers might find. (p. 9 and p. 21/GAO Draft Report)

Now on p 5 and p 12

DoD Position. Concur. (See DoD response to Recommendation 1).

FINDING D: System Data Bases Are Inaccurate And Incomplete. The GAO noted command officials stated that 90-percent accuracy was needed for making effective contract management decisions. The GAO assessed data integrity by statistically comparing selected system data elements to source documents in both the system's Contract and the Defense Contract Administration Service data bases. (The GAO observed that system officials agreed the elements the GAO selected were important to contract management and their analysis should provide a good indication of the system's data integrity.) The GAO found that accuracy of the data varied in terms of the number of data elements with less than 90 percent accuracy--i.e., 5 for Air Force Logistics Command; 10 for Air Force System Command; 10 for Navy; 12 for Army and 16 for the Defense Contract Administration Service. Of the total 11,134 items compared to source documents (517 contract-line-items times 23 data elements less 757 source documents that could not be located by the accountable office), the GAO reported that 2,225 had an error or an omission. Of the 2,225, the GAO found that:

- 1,082 had no data entered into the system when there should have been;
- 1,004 had incorrect and inaccurate data entered into the system; and
- 139 had zeros "plugged" into the system when there should have been data other than the zeros.

The GAO also found that only two data elements (last modification and first scheduled delivery data elements) were consistently below

Now on pp 5-7 and
pp 15-25

the 90-percent criterion. The GAO reported the accuracy of the other data elements varied in that they were sometimes below the required 90 percent accuracy and sometimes above. The GAO also found that data elements such as the last contract modification number, item description, first scheduled delivery, and establishing modification number contained a large number of the errors. (pp. 9-11, pp. 25-39/GAO Draft Report)

DoD Position. Concur. Two years of improvements within the Air Force Systems Command (AFSC) have occurred since the sample was taken in December 1984. This is the latest data used in the GAO evaluation. Since that time, however, improved training, explicit direction and tighter quality control by the Air Force Systems Command (AFSC) has been implemented. These initiatives should continue to improve data accuracy within the AMIS. A recent internal study of one of the major AMIS data bases (PRICES & CONTRACTS) showed the data to be above 95% correct.

FINDING E: Cause Of Errors Not Identified. The GAO could not determine the cause of the 2,225 errors it found. The GAO noted that Air Force officials stated that these system data accuracy problems were probably caused by improperly prepared source documents, weak input controls, and failure to update certain data elements promptly. The GAO also reported that Air Force officials at several contractor activities claimed the data was inaccurate because it was not entered in a timely manner. In monitoring 53 contractual documents, the GAO found that 30 had been accurately entered into the system, five had been entered but contained errors, and 18 had not been entered three months after their receipt. The GAO noted that the Division official responsible for getting data entered into the system gave (1) loss of contractual documents, (2) overlooking documents or information in documents, and (3) need to contact personnel at contractors plants for document correction as possible reasons for mistakes. The GAO observed that these identified reasons call into question whether existing Air Force procedures ensure that system data and input data are reconciled in a periodic and timely manner. (pp. 11-13/GAO Draft Report)

Now on p 6 and p 7

DoD Position. Concur. Although the causes of errors are not always identifiable, the combined efforts being taken in the areas of training and periodic data base reviews by the Air Force Systems Command (AFSC) and the DoD will both decrease the number of input errors and identify causes in a more timely manner.

FINDING F: Lack Of User Training Has Impeded System Use. The GAO reported that Air Force Regulation 700-6, "Information Systems Operations Management," makes information system managers responsible for educating users on the proper use of their systems. The GAO found, however, the training that has been available to system users has been inadequate, primarily because the AFSC has not (1) assigned clear responsibility for training users, (2) provided sufficient training resources, or (3) identified what training the users should receive. The GAO noted that in 1981, the

AFSC gave its Contract Management Division responsibility for training personnel who enter information for storage into the system and for training Air Force plant representative office personnel, and subsequently that division implemented some training programs. The GAO found that these programs emphasized teaching personnel at plant representatives' offices how to enter data, but not what users needed to know to query the system (including users not at plant representatives' offices--who account for half the system's expected use). The GAO also found that, despite efforts by the system's program office to provide some training, there were contract administration personnel who were not benefiting from using the system (and who could benefit) due to lack of training on the use of its information retrieval or query capabilities. The GAO reported it interviewed 100 contract administration personnel, of which 77 percent said they needed and could use additional training on the system to help them do their jobs more effectively. The GAO noted that since June 1985 the system's program office has taken several other steps to improve user training. The GAO concluded that the command has not provided adequate user training; therefore, contract administration personnel have been limited in their ability to query the system--a capability that they must have to fully benefit from the system. The GAO also concluded that the recent efforts of the system project office to improve user training could help but until the Command decides what training users require and who should provide that training, there is no assurance contract administration personnel will receive needed training. (p. 3, pp. 13-16, pp. 21-22/GAO Draft Report)

Now on p 2, pp 7-9,
and p 12

DoD Position. Concur. (See DoD response to Recommendation 2).

FINDING G: Lack Of Required Disaster Recovery Plan. The GAO found that the Air Force is extremely dependent upon the automated capabilities of the system; however, there is no disaster recovery plan for the system (required for Federal Agencies since 1978 by Office of Management and Budget (OMB) Circular A-71, and by Air Force regulation dating from 1975). The GAO also noted that, in October 1982, a Command Inspector General memorandum stated that the Aeronautical Systems Division (ASD) Computer Center, where the system's information is processed, was "critical to the payment of a significant portion of Air Force contractors. Even a few days shutdown would result in substantial payment of interest to contractors due to delayed payments." The GAO reported that, in April 1986, command officials stated that until recently they thought that existing Division personnel could provide needed disbursement backup should a computer disaster occur. The GAO observed, however, that command officials now believe that increased disbursement workloads necessitate computer backup capabilities, and they plan to develop the needed disaster recovery procedures. The GAO concluded that the absence of a required disaster recovery plan means that the command could not ensure system operations would be maintained in the event of an emergency. (p. 4, pp. 16-19, and p. 22/GAO Draft Report)

Now on p 2, pp 9-11, and
p 12

DoD Position. Concur. (See DoD response to Recommendation 3).

FINDING H: Required System Control Reviews Have Not Been Performed. The GAO found that required reviews of the system's general and application controls are not being conducted. The GAO noted that GAO auditing standards for Government organizations require that auditors of Federal activities review the controls of operating computer systems. The GAO also noted that when agencies are performing Federal Managers' Financial Integrity Act evaluations, they are to verify that such controls exist and are working. The GAO found that the Air Force Audit Agency is responsible for auditing this system, but did not know of any agency plans to audit the system in the future. (The GAO noted that, in August 1985, the system program office requested it be provided personnel to periodically evaluate the system's internal controls and data integrity.) The GAO concluded that, because the system has not been audited, as required, the Command has also been unable to ensure that needed system controls are in place and working. (p. 4, pp. 19-20/GAO Draft Report)

Now on p 2 and pp 11
and 12

DoD Position. Concur. (See DoD response to Recommendation 4).

RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommended that the Secretary of the Air Force direct the Commander, Air Force Systems Command, to establish acceptable system data integrity criteria and conduct periodic reviews of the system's data bases to determine their compliance with acceptable data integrity criteria and take actions as necessary to ensure that system data are accurate and complete. (p. 23/GAO Draft Report)

Now on p. 13

DoD Position. Concur. The Air Force Systems Command (AFSC) system data criteria will be established by July 1987 and annual reviews will be conducted to ensure the data meets the criteria. Should the appropriate manpower resources not be obtained, however, this schedule would slip and the criteria would be less stringent. Consequently, alternative sources are being explored. The AFSC AMIS Program Manager (AFSC/PKQ) is the responsible implementation activity. In addition to the audit request, the AMIS Program Manager has also taken action to establish AMIS as a special interest item for review by the AFSC Inspector General.

RECOMMENDATION 2: The GAO recommended that the Secretary of the Air Force direct the Commander, Air Force Systems Command, to determine what training system users need, what organizational component will be responsible for providing that training, and ensure that needed resources are available for providing the training. (p. 23/GAO Draft Report)

Now on p 13

DoD Position. Concur. Due to the large turnover rate of contracting personnel, the Air Force Systems Command (AFSC) training needs for AMIS will continue to grow. In support of user training, several training initiatives (Computer Aided

Instructions, AMIS User Conferences, Advisory Boards, Practical Application Courses, Air Training Course Development, and on-site (one-on-one) training) have been initiated. The AMIS out-of-cycle manpower request is in final review and will be submitted for approval by January 1987. The organizational component responsible for AMIS training is the AMIS Program Manager (AFSC/PKQ).

RECOMMENDATION 3: The GAO recommended that the Secretary of the Air Force direct the Commander, Air Force Systems Command, to periodically test the disaster recovery plan and make those changes needed to ensure that required support will be provided in the event of a disaster. (p. 23/GAO Draft Report)

Now on p 13

DoD Position. Concur. The Air Force Systems Command's Aeronautical Systems Division, Deputy Chief of Staff for Communication and Computer Systems (AFSC ASD/SI), has awarded a contract to obtain a disaster recovery plan. The plan is scheduled to be completed by June 1987. Since the plan is not yet complete, the date for an operational disaster recovery capability is unknown and will be subject to the availability of funds. Upon implementation, the system will be periodically exercised in conjunction with the ASD Computer Center and its total recovery plan. The organizational component responsible for the AMIS Disaster Recovery Plan is the AMIS Program Manager (AFSC/PKQ). The Air Force Systems Command's Aeronautical Systems Division, Deputy Chief of Staff for Communication and Computer Systems (AFSC ASD/SI) is the Office of Collateral Responsibility (OCR).

RECOMMENDATION 4: The GAO recommended that, to ensure that the system's internal controls are properly in place and working and to satisfy GAO's Policy and Procedures Manual for Guidance of Federal Agencies and the intent of the Federal Managers' Financial Integrity Act, the Secretary of the Air Force require periodic audits of the system's general and application controls. (p. 23/GAO Draft Report)

Now on p. 13

DoD Position. Concur. The Air Force Audit Agency is the responsible activity and will schedule audits as time and priorities permit. The Air Force Systems Command AMIS Program Manager will periodically request (through the Air Force Systems Command's Deputy Chief of Staff for Contracting and the Aeronautical Systems Division, Deputy Chief of Staff for Communication and Computer Systems) the Air Force Audit Agency conduct these audits.

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

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

Official Business
Penalty for Private Use \$300

Address Correction Requested
