# Audit Report

OFFICE OF THE INSPECTOR GENERAL

**AIR FORCE USE OF FUNDS ON MANAGEMENT INFORMATION SYSTEMS FOR EQUIPMENT MAINTENANCE**

Report No. 94-193 September 20, 1994

**Department of Defense**

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**Acronyms**

| | |
|---|---|
| CAMS | Core Automated Maintenance System |
| GAO | General Accounting Office |
| O & M | Operations and Maintenance |
| MAISRC | Major Automated Information Systems Review Council |
| REMIS | Reliability and Maintainability Information System |
| TICARRS | Tactical Interim CAMS and REMIS Reporting System |

INSPECTOR GENERAL
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September 20, 1994

MEMORANDUM FOR ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)
DIRECTOR, DEFENSE FINANCE AND ACCOUNTING
SERVICE

SUBJECT: Audit Report on the Air Force Use of Funds on Management Information Systems for Equipment Maintenance (Report No. 94-193)

We are providing this report for your information and use. The audit was directed by the House Committee on Appropriations in the House of Representatives Report No. 103-254, September 22, 1993. The report discusses matters concerning the use of funds for the operation, maintenance, and enhancement of three Air Force management information systems for equipment maintenance.

Comments from the Principal Deputy Assistant Secretary of the Air Force, Financial Management, and the Deputy Director for General Accounting, Defense Finance and Accounting Service, on a draft of this report conformed to the requirements of DoD Directive 7650.3 and left no unresolved issues. Therefore, no additional comments are required.

The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Mr. Christian Hendricks, Audit Program Director, at (703) 604-9427 or Mr. Tilghman Schraden, Audit Project Manager, at (703) 604-9436. The distribution of this report is listed in Appendix G. The audit team members are listed on the inside back cover.

Robert J. Lieberman
Assistant Inspector General
for Auditing

## Office of the Inspector General, DoD

**Report No. 94-193** **September 20, 1994**
(Project No. 4LB-5005)

# AIR FORCE USE OF FUNDS ON MANAGEMENT INFORMATION SYSTEMS FOR EQUIPMENT MAINTENANCE

## EXECUTIVE SUMMARY

**Introduction.** The House of Representatives, Committee on Appropriations Report No. 103-254, September 22, 1993, directed that the Inspector General, DoD, determine whether the Air Force or other DoD personnel violated any provision of the Antideficiency Act in regard to any obligation of funds to operate, maintain, or otherwise support the Core Automated Maintenance System (CAMS), the Reliability and Maintainability Information System (REMIS), and the Tactical Interim CAMS and REMIS Reporting System (TICARRS).

**Objective.** Our audit objective was to determine whether the Air Force or other DoD personnel properly maintained, operated, and funded CAMS, REMIS, and TICARRS maintenance management information systems. Additionally, we evaluated the applicable internal controls.

**Audit Results.** Of $19.6 million in its operations and maintenance appropriation made available in FY 1993 for TICARRS, the Air Force properly accounted for $10.7 million that was obligated for TICARRS, and improperly accounted for the remaining $8.9 million that was obligated for the operation, maintenance, and enhancement of other Air Force maintenance management information systems. As a result, the Air Force did not comply with the funding provisions of the DoD Appropriations Act, FY 1993, by obligating $4.8 million less than the $15.5 million floor established in the Act for TICARRS and the Smart Data System. Also, the Air Force use of $4.8 million to fund other Air Force maintenance requirements was not in compliance with United States Code, title 31, section 1301, and DoD and Air Force regulations.

**Internal Controls.** Although the Air Force's internal controls did not ensure that use of appropriated funds complied with congressionally mandated fund limitations, we did not consider the deficiency to be a reportable material internal control deficiency. The internal controls assessed are discussed in Part I of the report.

**Potential Benefits of Audit.** No potential monetary benefits were identified in this audit. Other potential benefits are summarized in Appendix E.

**Summary of Recommendations.** We recommend that the Air Force and the Defense Finance and Accounting Service charge the proper accounts for $8.9 million of funds used for other maintenance management information systems and implement established procedures for investigating and reporting antideficiency violations, if required.

**Management Comments.** The Principal Deputy Assistant Secretary of the Air Force, Financial Management, and the Deputy Director for General Accounting, Defense Finance and Accounting Service, concurred with the recommendations. The Air Force agreed to amend appropriate contracts to correct accounting data and to adjust accounting records, and determined that corrections of records would not result in an antideficiency act violation because sufficient unobligated funds were available on September 30, 1993. The Defense Finance and Accounting Service agreed to make accounting changes when requested by the Air Force and report any overobligations if incurred after accounting adjustments are made. The Air Force and Defense Finance and Accounting Service actions satisfy the intent of the recommendations; therefore, additional comments are not required. Part II discusses management comments, and Part IV contains the text of managment comments.

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This report was prepared by the Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, DoD.

# Part I - Introduction

# Background

The House of Representatives, Committee on Appropriations, has been concerned since 1991 with the development and operations of three Air Force maintenance management information systems: the Core Automated Maintenance System (CAMS), the Reliability and Maintainability Information System (REMIS), and the Tactical Interim CAMS and REMIS Reporting System (TICARRS). See Appendix A for a synopsis of the three maintenance management information systems. The legislative history (Appendix B) concerning the three maintenance management information systems indicated that the Air Force was having problems with the accuracy and reliability of maintenance data processed by CAMS and REMIS during the development of the systems. Concurrently, the TICARRS supporting the F-15 and F-16 aircraft and a related classified version of the TICARRS, the Smart Data System supporting the F-117A aircraft, had good performance records as operational maintenance management information systems.

The Air Force was planning to fully replace TICARRS and the Smart Data System in FY 1993 with CAMS and REMIS. CAMS and REMIS were designated as the Air Force-wide standard maintenance management information systems that were to replace older operating maintenance systems such as TICARRS. In FY 1992, at the direction of the House of Representatives, Committee on Appropriations, the General Accounting Office (GAO) and the DoD Major Automated Information Systems Review Council (MAISRC), chaired by the Comptroller of the Department of Defense, reported separately to the Committee on Appropriations on the accuracy and reliability of CAMS and REMIS. They reported that CAMS and REMIS continued to have accuracy and reliability problems during their development. As a result, the Committee on Appropriations directed that, for FY 1993, the Air Force would continue funding the operation, maintenance, and enhancement of TICARRS, and the related Smart Data System, to ensure that operational users had accurate and reliable maintenance data, while the Air Force resolved the development problems of CAMS and REMIS.

The DoD Appropriations Act, FY 1993, October 6, 1992, provided that $15.5 million of the Operations and Maintenance (O & M) Air Force Appropriation shall be made available only to operate, maintain, and enhance TICARRS and the Smart Data System. Additionally, TICARRS was to be maintained, with direct maintenance data input, as the supporting system for the F-15 and F-16 aircraft and the Smart Data System was to be maintained, with direct maintenance data input, as the supporting system for the F-117A aircraft.

The 645th Air Base Wing in the Aeronautical Systems Center at Wright-Patterson Air Force Base, Ohio, and the Defense Accounting Office-Denver, Defense Finance and Accounting Service, at Wright-Patterson Air Force Base, Ohio, provide accounting services for the Program Management Office for CAMS, REMIS, and TICARRS located in the Air Force Materiel Systems Center at Wright-Patterson Air Force Base. Until the Defense Finance and Accounting Service assumes full responsibility for accounting services, the 645th Air Base Wing personnel certify to the availability of funds before the funds are obligated. The Defense Finance and Accounting Service records and tracks the obligations.

## Objective

Our audit objective was to determine whether the Air Force or other DoD personnel properly maintained, operated, and funded CAMS, REMIS, and TICARRS maintenance management information systems. Applicable internal controls were also evaluated.

## Scope and Methodology

We reviewed legislative histories and appropriation documents for FYs 1992, 1993, and 1994 for any limitations or restrictions on the Air Force obligation and expenditure of funds for CAMS, REMIS, and TICARRS. We evaluated the adequacy of the Air Force and the Defense Finance and Accounting Service policies and procedures to ensure DoD compliance with congressionally imposed fund limitations, and to ensure that obligations and expenditures were made against properly authorized and obligated funds.

We examined budget authorizations, financial plans, contracts, program documentation, payment vouchers, and other financial records for FYs 1992, 1993, and 1994 to determine whether $22.4 million in FY 1993 O & M Appropriations and $ 3.1 million in Procurement Appropriations were properly authorized, obligated, and expended. To achieve the audit objective, we did not rely extensively on the computer-processed data from the General Accounting and Finance System, Base Level, at the Defense Accounting Office-Denver because we could not establish the reliability of the system data. We also did not use statistical sampling procedures in the performance of this audit. Organizations visited or contacted during this audit are in Appendix F.

This compliance and economy and efficiency audit was made from October 1993 through May 1994 in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD, and accordingly included such tests of internal controls as were considered necessary.

## Internal Controls

**Internal Controls Assessed.** The audit evaluated the Air Force's internal controls over the authorization and use of appropriated funds. Specifically, we evaluated existing Air Force and DFAS policies and procedures for ensuring that appropriated funds were properly authorized, obligated, and expended considering congressional limitations. Additionally, we reviewed the portions of the Air Force and the DFAS Internal Management Control Program applicable to the authorization and use of appropriated funds.

**Internal Control Weaknesses.** The audit did not identify internal control weaknesses as defined by DoD Directive 5010.38, "Internal Management Control Program," April 14, 1987. The Air Force and DFAS Internal Management Control Programs were effectively implemented. The Air Force Materiel Command reported a material internal control weakness for FY 1992 and FY 1993 in recording and reporting obligations. Therefore, we made no recommendations affecting internal control weaknesses.

## Prior Audits and Other Reviews

In the last 5 years, GAO and the Air Force Audit Agency issued reports addressing problems in the management of CAMS and REMIS.

GAO Report No. IMTEC 92-43R (OSD Case No. 9031), "Air Force Automatic Data Processing: CAMS and REMIS," was issued on March 31, 1992. The report states that the Air Force had not conducted a comprehensive review of CAMS to assess its overall performance; however, a number of studies at particular bases involving specific subsystems had disclosed some system performance and data accuracy problems. The GAO report also states that according to the CAMS and REMIS program office, poor system performance of REMIS was an Air Force user concern, and CAMS data were not accurately transmitted to the REMIS system. GAO made no recommendations to the Air Force or the Office of the Secretary of Defense.

Air Force Audit Agency Project 93066010, "Review of Reliability and Maintainability Information System User Requirements," was issued on April 11, 1994. The report stated that REMIS did not meet all the user requirements and that management had not performed internal control reviews for the system. Additionally, management had not provided documentation necessary to have the system adequately tested. The Air Force Audit Agency recommended that the Air Force program management office report significant REMIS problems and deficiencies in software to senior Air Force managers; determine communication needs for the REMIS software; formally change contract requirements and the functional description to incorporate new, less costly REMIS requirements; conduct an internal control review to test the organizational structure and software design of REMIS; and provide adequate documentation for test and evaluation of the system. The Air Force concurred with the Air Force Audit Agency recommendations and agreed to take corrective actions.

Air Force Audit Agency Project 91054020, "Audit Followup, Evaluation of the Core Automated Maintenance System (CAMS) Status and Inventory Subsystem Application Controls," was issued on May 28, 1992. The report was a follow-up audit on Project 9195417, March 9, 1990, to evaluate whether Air Force management actions were implemented in response to three of six recommendations made in the prior report. The follow-up report stated that the Air Force software that was released in April 1991 for the CAMS status and inventory subsystem did not provide a method for managers to access and retrieve the audit trail information of individual user transactions. The Air Force Audit Agency recommended that Air Force management correct the audit trail utility to provide access to a complete audit trail record. The Air Force concurred with the recommendation and took corrective action to complete a modification of the standard base-level computer operating system software for audit trail utilities.

Air Force Audit Agency Project 9195417, "Evaluation of the Core Automated Maintenance System (CAMS) Status and Inventory Subsystem Application Controls," was issued on March 9, 1990. The report stated that the CAMS status and inventory subsystem application controls were inadequate to ensure the accuracy, timeliness, and integrity of data. The Air Force Audit Agency recommended that Air Force management modify security software to restrict access to automated systems, develop compatibility and validity edits for checking critical data elements in CAMS, use supervisory and quality control reviews of the CAMS data base, and establish a system to monitor user activities based upon audit trails. The Air Force concurred with the recommendations and implemented corrective actions.

# Part II - Finding and Recommendations

# Funding of Maintenance Management Information Systems

Of $19.6 million in its operations and maintenance appropriation made available in FY 1993 for TICARRS, the Air Force improperly accounted for $8.9 million that was obligated for the operation, maintenance, and enhancement of other maintenance management information systems. The condition occurred because Air Force officials believed that the accounting was appropriate and that they had reasonable justification to enhance the other maintenance management information systems. As a result, the Air Force did not comply with the funding provisions of the DoD Appropriations Act, FY 1993, by obligating $4.8 million less than the $15.5 million floor established in the DoD Appropriations Act, FY 1993, for TICARRS and the Smart Data System. Additionally, because the Air Force used the $4.8 million to fund Air Force maintenance requirements other than TICARRS, the Air Force did not comply with United States Code, title 31, section 1301, and DoD and Air Force regulations.

## Background

**Air Force Planning and Funding.** The Air Force budgeted $10 million to operate, maintain, and enhance TICARRS for FY 1993. The Air Force did not budget any funds for the Smart Data System. The total budget planned for FY 1993 for TICARRS and the Smart Data System was about $5.5 million less than the average annual cost to operate and maintain the two systems in the years before FY 1993.

The budget for TICARRS was reduced because the Air Force planned to replace TICARRS during FY 1993 with CAMS and REMIS before the DoD Appropriations Act, FY 1993, was enacted. The Air Force had already discontinued the operation of the Smart Data System on August 14, 1992. On October 6, 1992, Congress established a $15.5 million floor in the DoD Appropriations Act, FY 1993, and directed the Air Force to continue the operation of TICARRS and the related Smart Data System. When the DoD Appropriations Act, FY 1993, was enacted, the total FY 1993 budget authority available for TICARRS and the Smart Data System was increased to $25.5 million. Excluding $3.1 million in the procurement appropriation and $2.8 million in budget authority that the Program Manager for CAMS, REMIS, and TICARRS returned to the Air Force Materiel Command for other uses, the Air Force had $19.6 million in O & M Air Force Appropriation funds authorized for TICARRS and the Smart Data System.

**Public Laws and Regulations.** United States Code, title 31, section 1301, requires that funds be used only for the purposes for which they were appropriated. DoD Manual 7110-1-M, "Budget Guidance Manual," June 1992, establishes policies and procedures on the use of funds affecting an item of special interest to congressional committees. Air Force Regulation 172-1, "USAF [United States Air Force] Budget Policies and Procedures," provides policy and guidance on reprogramming actions. Air Force Regulation 177-16, "Administrative Control of Appropriations," November 30, 1988, provides policy on appropriation fund accounting, including procedures for investigating and reporting antideficiency violations when overobligations occur.

## Funds Management

Of the $19.6 million in its O & M appropriation for TICARRS, the Air Force improperly accounted for $8.9 million that was actually obligated to operate, maintain, and enhance CAMS and REMIS. The Air Force obligated none of the total O & M Appropriation budget authority for the Smart Data System. Of the $19.6 million in the TICARRS budget, the Air Force obligated only $10.7 million for the operation, maintenance, and enhancement of TICARRS. Of the $8.9 million remaining, we could not determine the disposition of $51,000 because of an incomplete audit trail and because the obligation of those funds was unsupported in the accounting records. The $8.9 million (less the $51,000 that was unaccounted for) was improperly accounted for as obligations for TICARRS. Appendixes C and D show the distribution of the $25.5 million in budget authority and obligations for TICARRS in FY 1993.

## Justification to Enhance Management Information Systems

The Program Manager for CAMS, REMIS, and TICARRS believed that the accounting for the TICARRS funds was appropriate and that he had reasonable justification for obligating the O & M Air Force Appropriation for purposes other than the operation, maintenance, and enhancement of TICARRS and the Smart Data System. The justification was that the other uses of the O & M Air Force Appropriation could be considered enhancements to TICARRS, based on the definition of TICARRS. The Program Manager also stated that the use of the funds for other systems was to satisfy user requirements for TICARRS-type capabilities, the transfer of TICARRS-type capabilities was supported and directed by higher Air Force authority, and the use of the funds was reviewed and approved by the Air Force General Counsel's Office before the funds were obligated.

**TICARRS Definition.** The Program Manager for CAMS, REMIS, and TICARRS asserted that funding enhancements to CAMS and REMIS, using funds appropriated for TICARRS, was justifiable because TICARRS could be defined as a computer function and not a separately identifiable computer system. The Program Manager reasoned that migrating TICARRS-type functions to another computer mainframe would enhance TICARRS; thereby justifying the application of the FY 1993 O & M Air Force Appropriation.

We disagree with the Program Manager's assertion. The TICARRS system is a computer system composed of hardware and software that had been operated, maintained, and enhanced by the Dynamics Research Corporation, under various names, for more than 15 years. Our discussions with the professional staff of the House Appropriations Committee and the President of the Dynamics Research Corporation, as well as our review of correspondence between the Air Force and those parties, indicated that TICARRS is a separate computer system, not merely the functions contained in the computer system. We believe that Congress clearly intended to limit funds in the FY 1993 O & M Air Force Appropriation to ensure the continued operation, maintenance, and enhancement of the TICARRS computer system.

**User Requirements.** Satisfying user requirements for incorporating TICARRS-type capabilities into CAMS and REMIS was not a valid justification for obligating O & M Air Force Appropriation funds for enhancements to CAMS and REMIS. During the development of CAMS and REMIS, the F-16 aircraft System Program Office identified capabilities of TICARRS, such as tracking the F-16 aircraft by block number, that the F-16 aircraft System Program Office requested be included as requirements in the CAMS and REMIS developments.

The Program Manager for CAMS, REMIS, and TICARRS stated that the Air Force requirements board for CAMS and REMIS did not approve the necessary funding to satisfy the F-16 aircraft System Program Office requests. Therefore, the F-16 aircraft System Program Office requirements for TICARRS functions were considered beyond the scope of development of CAMS and REMIS. However, because the F-16 aircraft System Program Office persistently stressed the need for TICARRS functions, and because TICARRS was being discontinued, the Program Manager used the FY 1993 O & M Air Force Appropriation funds authorized for the TICARRS operations, maintenance, and enhancements to incorporate the TICARRS-type functions into CAMS and REMIS. We believe the incorporation of TICARRS-type functions into CAMS and REMIS were enhancements to CAMS and REMIS and not TICARRS; consequently, the use of the TICARRS-designated funds was inappropriate.

**Direction From Higher Air Force Authority.** High-level Air Force management supported and directed that the TICARRS-type functions be incorporated into CAMS and REMIS. On November 3, 1992, the Deputy Chief of Staff for Logistics at the Air Force Materiel Command disseminated an

Air Force-wide memorandum declaring that Air Force activities will use two systems as the Air Force standard systems for reliability and maintainability data. The Deputy Chief of Staff stated:

> It is now time to systematically move interim systems functionality and capability (i.e., Interim Tactical CAMS and REMIS Reporting System (TICARRS) and Smart Data System (SDS)) into CAMS/REMIS. In order to accomplish this effort, teams will be set up to . . . rehost needed functions into the CAMS/REMIS architecture and environment. . . . The bottom line is that the interim systems are not being shut off, but rather, they are being consolidated with the standard system.

The Deputy Chief of Staff memorandum appeared to provide direction to Air Force activities, including the Program Manager for CAMS, REMIS, and TICARRS, that did not comply with the intent of Congress. The intent of Congress was to continue the operation, maintenance, and enhancement of TICARRS and the Smart Data System.

**Office of the Air Force General Counsel Opinion.** The Program Manager for CAMS, REMIS, and TICARRS sought a legal opinion on the use of the $15.5 million for systems other than TICARRS. The legal advice that the Program Manager received was incomplete. On November 27, 1992, the Air Force Program Executive Officer for Information Systems requested a legal opinion from the Office of the Air Force General Counsel concerning the congressional language on TICARRS. In the background section of the request, the Program Executive Officer stated that the CAMS and REMIS system program office position was that the language in the Congressional Conference Report to the DoD Appropriations Bill for FY 1993, dated October 5, 1992, authorized the system program office to use a portion of the $15.5 million to enhance TICARRS and the Smart Data System by migrating the software to process on a different computer mainframe. The background further stated that the goal was to move TICARRS and the Smart Data System closer to the standard open system environment as well as to achieve more efficient configuration management of TICARRS and the Smart Data System.

In the context of the background of the November 27, 1992, request, the Program Executive Officer asked the Office of the Air Force General Counsel whether the migration of TICARRS and the Smart Data System to a different mainframe was in conflict with the congressional language. The Office of the Air Force General Counsel stated that nothing in the congressional language prohibited or even discouraged the migration of the TICARRS software to another mainframe. The Office of the Air Force General Counsel further responded that the prohibition was against using the software to support new aircraft or weapon systems.

The specific question and the response from the Office of the Air Force General Counsel did not address the legality of transferring the functionality of TICARRS and the Smart Data System to CAMS and REMIS using a portion of the $15.5 million made available only for TICARRS in the DoD Appropriations Act, FY 1993. The legal officer who responded to the Air Force Program Executive Officer informed us that he did not intend his response to be an opinion on the appropriate use of the $15.5 million. Consequently, the Program Manager for CAMS, REMIS, and TICARRS relied on an incomplete legal opinion from the Office of the Air Force General Counsel when he had the obligations for CAMS and REMIS enhancements charged to the TICARRS account.

## DoD Appropriations Act

**Minimum Requirement in the DoD Appropriations Act.** The Air Force did not comply with the funding provisions of the DoD Appropriations Act, FY 1993, by obligating $4.8 million less for TICARRS and the Smart Data System than the $15.5 million required in the Act. The legislative history related to TICARRS indicated that the $15.5 million was the minimum appropriation amount that the Air Force was required to obligate for TICARRS and the Smart Data System in FY 1993. Analysis of the Air Force records showed that the Air Force obligated only $10.7 million in FY 1993 for the operation, maintenance, and enhancement of TICARRS. That amount was $4.8 million less than the $15.5 million that was required to be obligated.

**Appropriations for Purposes Authorized.** The Air Force use of $4.8 million of the O & M Air Force Appropriation to fund maintenance requirements other than TICARRS or the Smart Data System did not comply with United States Code, title 31, section 1301, and DoD and Air Force regulations. United States Code, title 31, section 1301, states, "Appropriations shall be applied only to the objects for which the appropriations were made except as otherwise provided by law."

The Office of the U.S. Comptroller General stated that the starting point in applying United States Code, title 31, section 1301, is the common meaning of the words in the appropriation act and the program legislation it funds governs the purposes to which the appropriation may be applied. Our evaluation of accounting and contract records indicated that the Program Manager for CAMS, REMIS, and TICARRS obligated $4.8 million for other Air Force maintenance requirements, including the enhancement of CAMS and REMIS. However, the Air Force accounted for those funds as TICARRS obligations. Consequently, the $4.8 million was not obligated for the purpose stated in the DoD Appropriations Act, FY 1993, which provided that the O & M Air Force

Appropriation funds shall be made available only to operate, maintain, and enhance TICARRS and the Smart Data System. Before obligating the $4.8 million for CAMS and REMIS enhancements, the Air Force was required to request congressional approval for reprogramming the funds as specified in DoD Manual 7110-1-M and Air Force Regulation 172-1.

**Use of the Smart Data System in FY 1993.** The Air Force was not in compliance with the DoD Appropriations Act, FY 1993, because Air Force officials did not use the Smart Data System for direct maintenance data input to the F-117A aircraft, as required by the Act. Although the Deputy Program Manager for the F-117A aircraft supported its continued operation, on August 14, 1992, the Air Force discontinued operation of the Smart Data System. The operation was discontinued because Air Force officials did not reestablish the operation of the Smart Data System; and they did not provide any budget authority for the operation, maintenance, and enhancement of the Smart Data System for FY 1993. The President of Dynamics Research Corporation estimated that it would cost $3.5 million annually to operate the Smart Data System.

**Antideficiency Act.** We detected no Air Force or other DoD personnel violation of any provision of the Antideficiency Act regarding obligation of funds to operate, maintain, or otherwise support CAMS, REMIS, and TICARRS. However, when the accounting and finance personnel follow procedures established in Air Force Regulation 177-16 and reverse the charges that were improperly made to the TICARRS account for CAMS and REMIS requirements, the corrections may result in an Antideficiency Act violation. If a violation of the Antideficiency Act occurs as a result of the accounting corrections, the Air Force accounting and finance personnel are required to investigate and report the violation in accordance with Air Force Regulation 177-16.

## Recommendations for Corrective Action

We recommend that the Commander, Air Force Materiel Command; the Commander, Air Force Materiel Systems Center; and the Director, Defense Accounting Office-Denver, Defense Finance and Accounting Service:

1. Charge to the proper accounts the $8.9 million (Appendixes C and D) that was used to operate, maintain, and enhance management information systems other than the Tactical Interim Core Automated Maintenance System and Reliability and Maintainability Information System Reporting System and Smart Data System.

2. Implement Air Force Regulation 177-16, "Administrative Control of Appropriations," November 30, 1988, which provides procedures for investigating and reporting apparent antideficiency violations, if overobligations occur after appropriate accounting adjustments are made as a result of implementing Recommendation 1.

## Management Comments

The Principal Deputy Assistant Secretary of the Air Force, Financial Management, and the Deputy Director for General Accounting, Defense Finance and Accounting Service, concurred with the recommendations. The Principal Deputy Assistant Secretary of the Air Force stated that the appropriate contracts will be amended to correct accounting data, accounting records will be adjusted, and no apparent antideficiency violations will be incurred because sufficient unobligated funds were available on September 30, 1993. The Deputy Director for General Accounting stated that the Defense Finance and Accounting Service will change obligations when requested by the Air Force, and report any overobligations if incurred after accounting adjustments are made. The Principal Deputy Assistant Secretary of the Air Force stated that corrective actions will be completed by September 30, 1994.

# Part III - Additional Information

# Appendix A. Synopsis of Maintenance Management Information Systems

**Core Automated Maintenance System.** CAMS is an Air Force standard base-level management information system for collecting and processing maintenance information. CAMS provides support for all aircraft, communications and electronics, and equipment maintenance activities at 109 air bases, 153 Air Force National Guard and Reserve sites, and selected North Atlantic Treaty Organization sites.

CAMS development began in 1982 at the Standard Systems Center at Gunter Air Force Base, Alabama. CAMS was fully developed and implemented in August 1992 and interfaces through the Defense Data Network with REMIS and TICARRS. Unisys Corporation provides maintenance support for the standard base-level computers, and Harris Data Services Corporation provides support for the development, maintenance, and modification of software for CAMS.

**Reliability and Maintainability Management Information System.** REMIS is a management information system that provides performance and readiness data on Air Force weapon systems and equipment. REMIS relies on maintenance data from CAMS to provide product performance, utilization, inventory, and other similar data to Air Force-wide users at major commands and logistics centers.

REMIS development began in March 1984 by Litton Computer Services and is expected to be completed in October 1995. REMIS will consolidate 20 existing systems with a single, on-line data base system at Wright-Patterson Air Force Base, Ohio, that is expected to provide service to over 2,100 locations.

**Tactical Interim CAMS and REMIS Reporting System.** TICARRS is a maintenance computer system developed, operated, and maintained for the Air Force by the Dynamics Research Corporation. TICARRS is a data base system that collects maintenance data on the F-15 and F-16 aircraft at Air Force locations worldwide. The data are transmitted for processing by way of telecommunications lines to two Dynamics Research Corporation computers in Andover, Massachusetts.

TICARRS originated in 1979 as the Centralized Data System, a maintenance management information system for the F-16 aircraft. The Dynamics Research Corporation modified the Centralized Data System in 1985 to create a classified version of the maintenance management information system, the Smart Data System, to support the F-117A aircraft. In 1987, the name of the Centralized Data System was changed to TICARRS. Dynamics Research Corporation expanded the capabilities of the TICARRS in FY 1989 to include the F-15 aircraft.

# Appendix B. Legislative History

The legislative history from November 1991 through September 1993 indicated that Congress wanted to continue the operation and maintenance of TICARRS, and the related classified Smart Data System, while the Air Force resolved accuracy and reliability problems of CAMS and REMIS during their developments.

**House of Representatives Conference Report No. 102-328, November 18, 1991.** In Report No. 102-328, the Senate expressed concern about the overall ability of CAMS and REMIS to effectively and consistently provide timely, accurate, and comprehensive information required for optimum readiness and sustainability of complex weapon systems. The Senate stated that Air Force and independent analyses and audits documented deficiencies of CAMS and REMIS in meeting acceptable data reliability standards and satisfying information management requirements.

The conferees cautioned the Air Force that further congressional support for CAMS and REMIS was contingent on a compelling determination of the systems' capabilities to perform designated missions. Because of the concern expressed about the capabilities of CAMS and REMIS and the importance of timely, reliable, and complete information, the conferees believed that an independent review of CAMS and REMIS data accuracy and cost-effectiveness was warranted. The conferees noted that some weapon systems were supported by information systems other than CAMS and REMIS that performed well for several years. Accordingly, the conferees directed that not more than 65 percent of the funds appropriated for CAMS and REMIS in FY 1992 shall be obligated until the GAO completed a comprehensive analysis of the capabilities of CAMS and REMIS that was to be submitted to the House and Senate Appropriations Committees by March 31, 1992. The analysis was to determine whether CAMS and REMIS met the system availability, data accuracy and completeness requirements, and information standards approved by the DoD MAISRC to optimize the readiness and availability of complex weapons systems. CAMS and REMIS were also required to have an Office of the Secretary of Defense-level MAISRC review. The conferees directed that existing information and data systems not be replaced with CAMS or REMIS until the Appropriations Committees of the House and Senate notified DoD that it could proceed.

**House of Representatives Appropriations Bill, 1993, Committee on Appropriations Report No. 102-627, June 29, 1992.** Report No. 102-627 states that the Air Force had not conducted a comprehensive review of CAMS, but that numerous studies had been done at base level. Those studies indicated that system performance and data accuracy problems persisted. According to

GAO, REMIS also suffered from serious software deficiencies, many of which had been identified as category 1 or catastrophic errors. GAO stated that it would be some time before the deficiencies could be corrected.

Based on the GAO findings, the Committee included a general provision that directed the Air Force to reestablish on-line interactive TICARRS reporting for the F-15 and F-16 aircraft fleets and to maintain TICARRS as the supporting system for the F-117A aircraft. The intent was to preclude the Air Force from depriving operations, maintenance, supply, and systems program management organizations of systems that work, while the Air Force tried to correct the defects in management information systems that were unable to provide timely, accurate, and comprehensive data and information. The general provision permitted the program management office to enhance TICARRS, and the Air Force was directed to encourage and support such enhancements.

Finally, the Committee directed that a comprehensive life-cycle cost and capability comparative analysis of CAMS, REMIS, and TICARRS be accomplished by an independent source such as the Institute for Defense Analysis. The source selection for this cost analysis contract could be made only by the Office of the Secretary of the Defense. The assessment was completed in August 1993 and provided to the Committees on Appropriations.

**House of Representatives Conference Report No. 102-1015, October 5, 1992.** Report No. 102-1015 states that the conferees supported continued operations and enhancements of CAMS and REMIS and TICARRS as they were operating. Enhancements or expansions of each system in FY 1993 were at the discretion of the Air Force. The conferees provided $15.5 million within the O & M Air Force Appropriation for the continued operation of TICARRS, as the supporting system for the F-15 and F-16 aircraft that were being supported by TICARRS as of October 1, 1992. Further, the Air Force could not expand TICARRS support for other aircraft or weapon systems in FY 1993. The Air Force was also directed to maintain support for the F-117A aircraft by the Smart Data System for FY 1993. Expansion and enhancements of the Smart Data System in FY 1993 would also be at the discretion of the Air Force. Finally, the conferees provided $500,000 to the O & M Air Force Appropriation so that the Air Force could perform an independent cost and operational effectiveness analysis, through the Institute for Defense Analysis, to compare CAMS, REMIS and TICARRS. The study was completed in August 1993 and provided to the House and Senate Committees on Appropriations.

**Department of Defense Appropriations Act for 1993, October 6, 1992.** The Act provides that $15.5 million of the O & M Air Force Appropriation shall be made available only to operate, maintain, and enhance TICARRS and the Smart Data System. The Smart Data System was to be maintained, with direct maintenance data input, as the supporting system for the F-117A aircraft.

Additionally, TICARRS was to be maintained, with direct maintenance data input, as the supporting system for the F-15 and F-16 aircraft supported by TICARRS as of October 1, 1992.

**House of Representatives Committee on Appropriations Report No. 103-254, September 22, 1993.** The report restated concerns about the ability of CAMS and REMIS to provide timely, accurate, and comprehensive data and information to Air Force systems managers. The report also stated that the GAO evaluation revealed serious software deficiencies in CAMS and REMIS and that the DoD MAISRC uncovered significant deficiencies in the ability of the systems to deliver timely and accurate data.

The Committee was aware that the Air Force intended to proceed with its fielding plan for CAMS and REMIS, despite the findings of GAO and the DoD MAISRC. Therefore, the Committee included provisions in the FY 1993 Defense Appropriations Bill and accompanying report directing that TICARRS would be maintained in support of all F-117A aircraft and reestablished as the maintenance management information system for all F-15 and F-16 aircraft. The provisions will remain in effect until an independent assessment of the three systems is completed. The intent of the provision was to preclude the Air Force from depriving operations, maintenance, supply, and systems program management organizations of systems that work, while the Air Force tried to correct the defects in management information systems that were unable to provide timely, accurate, and comprehensive data and information. The House passed the legislation in June 1992. Nevertheless, in August 1992, signaling its intent not to comply, the Air Force replaced TICARRS with CAMS as the supporting system for the F-117A aircraft. Concerned that air crew safety might be endangered by the premature fielding of systems that did not work very well, the Appropriations Conference Committee included a nearly identical provision in the 1993 Defense Appropriation Act.

The Air Force chose not to fully comply with the FY 1993 Appropriations mandate to reestablish TICARRS in support of F-15, F-16, and F-117A aircraft. Therefore, the House Appropriations Committee recommended a new provision for FY 1994 that directed the Air Force to reestablish TICARRS in support of one wing for each of those aircraft by January 1, 1994, and that TICARRS be reestablished on all F-15, F-16, and F-117A aircraft no later than March 1, 1994. As of July 1994, the Air Force was negotiating with the appropriation committees to comply with the intent of this requirement.

The House Appropriations Committee directed the Inspector General, DoD, to determine whether the Air Force or other DoD personnel violated any provision of the Antideficiency Act in regard to any obligation of funds to operate, maintain, or otherwise support CAMS, REMIS, and TICARRS.

# Appendix C. FY 1993 Sources and Uses of Funds for TICARRS

| Fund Source | Amount Authorized (millions) | Date | Amount Obligated (millions) | Purpose Used |
|---|---|---|---|---|
| F-16 System Program Office Procurement | $ 3.092 | Dec. 5, 1991 | $ 3.092 | Dynamics Research Corporation contract |
| O&M, Air Force | 0.5 | Dec. 17, 1992 | 0.5 | Institute for Defense Analysis study |
| O&M Baseline | 6.409 | Nov. 6, 1992 | 6.409 | Dynamics Research Corporation contract |
| O&M Limitation | 15.5 | Jan. 11, 1993 | 3.772 | Dynamics Research Corporation contract, program management office support, and TICARRS 1992 demonstration |
| Subtotal (Lines 2+3+4) | | | 10.681 | Properly obligated O&M funds ($4.819 million shortfall to $15.5 million limitation) |
| O & M Limitation | | | 8.859 | For purposes other than TICARRS or the Smart Data System (includes enhancements to CAMS and REMIS) |
| | | | 0.051 | Undocumented obligations |
| | | | 2.818 | Unexecuted O&M funds returned to Air Force Materiel Command |
| Total | $25.501 | | $25.501 | FY 1993 TICARRS budget authority |

# Appendix D. FY 1993 TICARRS Funds Used for Other Purposes

The following is a schedule showing the distribution of $8.9 million of FY 1993 O & M appropriation that the Air Force obligated for purposes other than for the operation, maintenance, and enhancement of TICARRS and the Smart Data System.

| Fund Source | Amount Obligated | Date Obligated | Purpose Used |
|---|---|---|---|
| O&M Baseline or Limitation | $4,000,000 | Jan. 26, 1993 | Migrated TICARRS functions to REMIS; added the ability to track F-16 aircraft by block number. |
| | 1,753,751 | Nov. 17, 1992 | Migrated TICARRS functions to CAMS; added the ability to track F-16 aircraft by block number. |
| | 1,837,000 | Aug. 6, 1993<br>Aug. 30, 1993<br>Aug. 31, 1993 | TICARRS maintenance history data converted to REMIS configuration and format. |
| | 116,729 | Sep. 3, 1993 | Added ability to CAMS and REMIS to track maintenance history by F-16 aircraft block number. |
| | 464,131 | Aug. 31, 1993 | Accelerated response time of CAMS and REMIS for users. |
| | 111,026 | Jan. 28, 1993<br>Feb. 9, 1993 | Developed engineering data collection models for information systems development; involved several existing Air Force systems. |
| | 576,481 | Sep. 24, 1993 | Provided long-term planning and technology demonstration for the establishment of an Air Force standard maintenance management information system. |
| Total | $8,859,118 | | |

# Appendix E. Summary of Potential Benefits Resulting From Audit

| Recommendation Reference | Description of Benefits | Type of Benefits |
|---|---|---|
| 1. | Compliance and Internal Control. Makes accounting adjustment to proper appropriation account. | Nonmonetary. |
| 2. | Compliance and Internal Control. Properly identifies and reports Antideficiency Act violations resulting from accounting corrections. | Nonmonetary. |

# Appendix F. Organizations Visited or Contacted

## Office of the Secretary of Defense

Office of the Comptroller of the Department of Defense, Washington, DC
Office of the Deputy Assistant Secretary of Defense (Information Systems), Washington, DC

## Department of the Air Force

Office of the Air Force General Counsel, Washington, DC
Office of the Assistant Secretary of the Air Force (Financial Management and Comptroller), Washington, DC
Office of the Assistant Secretary of the Air Force (Acquisition), Washington, DC
Office of the Air Force Deputy Chief of Staff for Logistics, Washington, DC
Air Force Materiel Command, Wright-Patterson Air Force Base, OH
Air Force Aeronautical Systems Center, Wright-Patterson Air Force Base, OH
Air Force Materiel Systems Center, Wright-Patterson Air Force Base, OH
Standard Systems Command, Maxwell Air Force Base, AL

## Defense Agencies

Defense Contract Audit Agency, Alexandria, VA
Defense Accounting Office-Denver, Defense Finance and Accounting Service, Wright-Patterson Air Force Base, OH
Defense Logistics Agency, Alexandria, VA

## Non-Defense Organizations

House Subcommittee on Defense, Committee on Appropriations, Washington, DC
Dynamics Research Corporation, Andover, MA

# Appendix G. Report Distribution

## Office of the Secretary of Defense

Comptroller of the Department of Defense
Office of the General Counsel of the Department of Defense
Office of the Deputy Assistant Secretary of Defense (Information Management)
Assistant to the Secretary of Defense (Public Affairs)

## Department of the Air Force

Secretary of the Air Force
Assistant Secretary of the Air Force (Financial Management and Comptroller)
General Counsel of the Air Force
Auditor General, Department of the Air Force

## Defense Organizations

Director, Defense Contract Audit Agency
Director, Defense Finance and Accounting Service
Director, Defense Logistics Agency
Director, National Security Agency
Inspector General, Central Imagery Office
Inspector General, Defense Intelligence Agency
Inspector General, National Security Agency
Director, Defense Logistics Studies Information Exchange

## Non-Defense Federal Organizations

Office of Management and Budget
U.S. General Accounting Office
  National Security and International Affairs Division, Technical Information Center
  National Security and International Affairs Division, Defense and National Aeronautics and Space Administration Management Issues
  National Security and International Affairs Division, Military Operations and Capabilities Issues

## Non-Defense Federal Organizations (cont'd)

Chairman and Ranking Minority Member of each of the following Congressional Committees and Subcommittees:

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Operations
House Subcommittee on Legislation and National Security, Committee on Government Operations

# Part IV - Management Comments

# Department of the Air Force Comments

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

26 AUG 1994

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING
OFFICE OF THE INSPECTOR GENERAL
DEPARTMENT OF DEFENSE

FROM: SAF/FM

SUBJECT: DoDIG Draft Audit Report, "Air Force Use of Funds on Management Information Systems For Equipment Maintenance" (Project No. 4LB-5005)

This is in reply to your memorandum requesting the Assistant Secretary of the Air Force (Financial Management and Comptroller) to provide Air Force comments on subject report.

Attached are our management comments.

JOHN W BEACH
Principal Deputy Assistant Secretary
of the Air Force, Financial Management

Attachment:
Management Comments

DoDIG Draft Audit Report
Air Force Use of Funds on Management Information
Systems For Equipment Maintenance" (Project No. 4LB-5005)

**RECOMMENDATION 1.** We recommend that the Commander, Air Force Materiel Command; the Commander, Air Force Materiel Systems Center; and the Director, Defense Finance and Accounting Service, Defense Accounting Office-Denver, at Wright-Patterson Air Force Base, Dayton, Ohio:

1. Charge to the proper accounts the $8.9 million that was used to operate, maintain, and enhance management information systems other than the Tactical Interim Core Automated Maintenance (CAMS) System and Reliability and Maintainability Information System (REMIS) Reporting System and Smart Data System.

**MANAGEMENT COMMENTS.**

Concur. HQ AFMC/FM has asked the TICARRS, CAMS/REMIS program office to amend the accounting data on the appropriate contracts for $8.9 million that was charged in error to TICARRS. When the amendments are issued, the accounting records will be adjusted to comply with the audit recommendation. Transactions should be completed by 30 September 1994.

**RECOMMENDATION 2.** Implement Air Force Regulation 177-16, "Administrative Control Of Appropriations," November 30, 1988, which provides procedures for investigating and reporting apparent antideficiency violations, if over obligations occur after appropriate accounting adjustments are made.

**MANAGEMENT COMMENTS.**

Concur with intent. HQ AFMC has reviewed the status of funds. On 30 September 1993, AFMC had unobligated balances in excess of the $4.8 million required to meet the TICARRS floor. Therefore, correction of the records will not create an antideficiency act violation.

# Defense Finance and Accounting Service Comments

DEFENSE FINANCE AND ACCOUNTING SERVICE
1931 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22240-5291

AUG 9 1994

DFAS-HQ/G

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE,
DIRECTOR, LOGISTICS SUPPORT DIRECTORATE

SUBJECT: Preparation of Response to DoD IG Draft Report, "Air Force Use of Funds on Management Information Systems for Equipment Maintenance," (Project Code 4LB-5005), June 15, 1994

Your memorandum of June 15, 1994, requested comments on the Recommendations for Corrective Action contained in the Inspector General (IG) draft report referenced above.

In the recommendations, the Commander, Air Force Materiel Command; the Commander, Air Force Materiel Systems Center; and the Director, Defense Finance and Accounting Service, Defense Accounting Office-Denver, at Wright-Patterson Air Force Base, Dayton, Ohio are to: 1) charge the proper accounts for the $8.9 million that was used to operate, maintain, and enhance management information systems other than the Tactical Interim Core Automated Maintenance System (TICARRS) and Smart Data System and 2) Implement Air Force Regulation 177-16, "Administrative Controls of Appropriations," November 30, 1988, which provides procedures for investigating and reporting apparent antideficiency violations, if over obligations occur after appropriate accounting adjustments are made.

We concur with this recommendation and corrective action. However, the primary action is with the Commander, Air Force Materiel Command and the Commander, Air Force Materiel Systems Center. The Defense Finance and Accounting Service (DFAS) will change the obligations promptly, when so requested by the Air Force Materiel Command and Air Force Materiel Systems Center. If overobligations incur, after any adjustments are made, we will follow the procedures for reporting according to Air Force Regulation 177-16, "Administrative Controls of Appropriations," of November 30, 1988.

Arnold R. Weiss
Deputy Director for General
Accounting

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