

GAO

Report to the Chairman, Subcommittee  
on Defense, Committee on  
Appropriations, House of  
Representatives

January 1991

# MAJOR ADP SYSTEMS

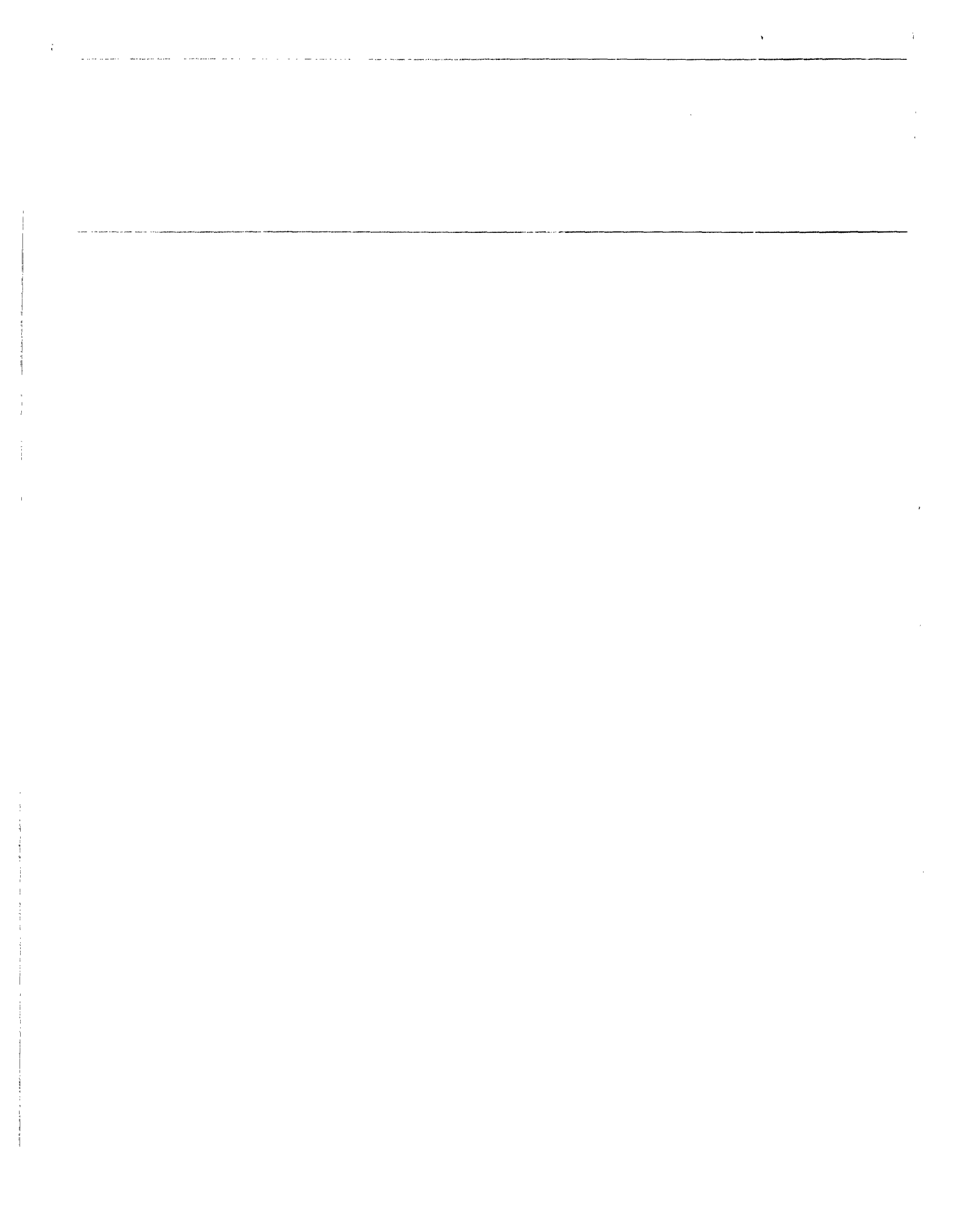
## DOD Does Not Always Comply With Statutory Restriction on Obligations



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**Information Management and  
Technology Division**

B-241882

January 7, 1991

The Honorable John P. Murtha  
Chairman, Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

Dear Mr. Chairman:

This report responds to your request that we assess the extent to which the Department of Defense has complied with a recurring Defense Appropriations Act restriction since 1987 that no funds be obligated for major automated information systems that have not successfully completed oversight reviews required by Defense regulations.

To determine if Defense is complying with the statutory restriction, we reviewed nine major automated information systems developments managed by the Air Force, Army, and Navy. Defense officials agreed that these systems constitute a fair representation of major automated information systems and life cycle management experiences across the three services. The systems have also undergone oversight reviews since 1987, and are therefore subject to the statutory restriction. Our objective, scope, and methodology are explained in appendix I. A list of the selected systems is included as appendix II.

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**Results in Brief**

We found that Defense did not comply with the statutory restriction in three of the nine systems reviewed. In all three cases, Defense officials knowingly allowed funds to be obligated for systems that had not successfully completed oversight reviews. They concluded it was in the best interest of the government to do so to avoid delays or increased costs to these programs; however, we did not find any supporting analysis for these conclusions. These actions not only resulted in violation of the statutory restriction, but in failure to comply with Defense's own policies for acquiring automated systems.

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**Background**

Defense annually spends about \$9 billion on general purpose automated data processing (ADP) systems to manage billions of dollars in logistics, personnel, and financial resources critical to its mission. For more than 10 years, Defense Directive 7920.1, Life-Cycle Management of Automated Information Systems (AIS), and accompanying Instruction 7920.2, have required a structured process for managing an information

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system's progress at six milestones during its life cycle. (A description of these milestones is included in appendix III.) Oversight reviews are intended to ensure compliance with Defense life cycle management policy and provide for visibility and corrective action on deficiencies that may occur during the course of a system's development.

In 1978, the Office of the Secretary of Defense (OSD) established the Major Automated Information Systems Review Council (now Committee) (MAISRC), composed of senior-level Defense officials, to oversee the development of major systems. Defense policy defines major systems as those that have estimated program costs exceeding \$25 million in 1 year, \$100 million total, or are of special interest.

Since 1983, to minimize the layers of management oversight, Defense policy has allowed MAISRC to delegate its review and milestone approval authority to the services. At the time of our review, MAISRC had delegated oversight authority to the services for more than half of Defense's 52 major automated information systems. MAISRC is authorized to revoke the delegated authority in the event of systems cost growth of 25 percent or more, significant development problems, a 6-month schedule delay, or inadequate service oversight.

In recent years, the revelation of a pattern of significant cost increases, schedule delays, performance shortfalls, redirected development and acquisition strategies, and noncompliance with regulations has led the Congress to seriously question Defense's ability to effectively manage its information systems acquisitions. More specifically, the Congress has questioned whether funds are being obligated for systems that have not successfully completed required oversight reviews. To preclude this, the Congress inserted the following requirement in the Continuing Resolution Making Appropriations For Fiscal Year 1987:

None of the funds appropriated or made available by this Act may be obligated for acquisition of major automated information systems which have not successfully completed oversight reviews required by Defense Department Regulations.

This language was also included in Defense's appropriations acts for fiscal years 1988 through 1990. In a December 1986 memorandum, the Assistant Secretary of Defense (Comptroller) notified the services of the statutory restriction. In its June 1988 revision to Defense Directive 7920.1, OSD reemphasized the statutory language to require that the head of each Defense component

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ensure that no funds are obligated for the acquisition of an [automated information system] which has not successfully completed an appropriate management review and obtained milestone approval required by this [directive and the accompanying Defense Instruction 7920.2].

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## Defense Does Not Always Comply With the Restriction on Obligating Funds

We reviewed nine major automated information systems that have been or are being developed by the Air Force, Army, and Navy, and found that for three systems Defense did not comply with the statutory restriction. These systems are the Air Force Depot Maintenance Management Information System (DMMIS), the Air Force Personnel Concept III Program (PC-III), and the Navy Integrated Disbursing and Accounting Financial Information Processing System (IDAFIPS).

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### DMMIS Not in Compliance

The funding for the DMMIS program was not in compliance with the statutory restriction. MAISRC allowed funds to be obligated to develop DMMIS prior to successfully completing the milestone II approval for systems development. MAISRC decided to defer milestone II approval pending completion of a risk analysis and a plan, but allowed the Air Force to obligate funds to avoid renegotiating a contract.

DMMIS is an automated system being developed by the Air Force Logistics Command to improve the overall efficiency and effectiveness of its depot maintenance operations. The Air Force estimates DMMIS program costs at \$242 million, with full operating capability expected by September 1993. DMMIS is expected to provide repair depots with on-line capability to do such things as forecast work loads, schedule repairs, and track and control inventories.

In June 1989, MAISRC conducted a milestone I revalidation and milestone II review of DMMIS. MAISRC approved milestone I revalidation, but did not conclude a milestone II decision for the development of the system pending completion of a risk analysis and planning activities. Although DMMIS did not successfully complete milestone II, MAISRC allowed the Air Force to obligate funds for development activities. According to the documentation supporting this authorization, MAISRC allowed the Air Force to exercise contract options since the contract would have to be renegotiated otherwise. The Air Force believed that any renegotiations would result in increased costs to its program. However, we found no supporting analysis of this potential cost increase in the documentation provided to MAISRC during its decision process.

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The Deputy Assistant Secretary of Defense for Command, Control, Communications and Intelligence questioned the legality of allowing the Air Force to obligate funds for development prior to the required milestone approval. He recommended that MAISRC approve milestone II contingent upon completion of the planning and risk analysis. Despite these concerns, MAISRC deferred milestone approval but allowed the Air Force to proceed to exercise the contract options in June 1989 at a cost of approximately \$13 million.

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### PC-III Not in Compliance

Obligation of funds for PC-III development was not in compliance with the statutory restriction. OSD and Air Force management allowed the program manager to obligate funds to deploy the PC-III system prior to successfully completing the milestone III approval, which provides permission to deploy the system. MAISRC later concurred with this decision.

PC-III is an automated system intended to provide users at the command and unit levels with automated access to an existing personnel system at Air Force bases. At the time of our review, the total program cost for PC-III was estimated at \$172 million, and the life cycle cost was estimated at \$527 million.

In November 1989, prior to a milestone III decision, the Air Force Automated Information Systems Acquisition Review Council<sup>1</sup> directed the installation of the system at an unspecified number of sites beyond those originally required for test purposes. The Council justified these installations with the statement that "although the required baseline functional capability had been fully developed and successfully tested, it would be more appropriate to provide a more thorough basis for a MAISRC milestone III decision by obtaining more operational experience." Subsequent to this decision, OSD authorized the Air Force to deploy the system at five additional sites.

Although deployment authorization is not given until after a milestone III decision, OSD authorized the Air Force to obligate funds to install the system at 10 more sites prior to its milestone review. PC-III successfully completed its MAISRC milestone III review in July 1990.

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<sup>1</sup>This Air Force council is similar in authority and responsibility within the Air Force to Defense's MAISRC.

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## IDAFIPS Not in Compliance

In the case of IDAFIPS, MAISRC allowed the Navy to continue into development even though a milestone II review had not been completed, since MAISRC believed its decision was in the best interest of the government.

IDAFIPS was a system designed to integrate separate disbursing and accounting records for the Navy's operation and maintenance and reserve personnel appropriations. This integration was to ensure that accounts payable and obligations are recorded before payments are authorized.

Prior to 1987, review and approval under life cycle management was the responsibility of the Navy. In 1983, the Navy granted milestone II approval for developing IDAFIPS. However, in October 1987, because of an increase in development costs from \$91 million to \$167 million, a 4-year schedule delay, and indications that the Navy's original milestone II approval was flawed, OSD directed the Navy to present IDAFIPS for a MAISRC milestone II review.

The MAISRC milestone II review was repeatedly delayed while the Navy completed the required analyses and program documentation. In the interim, OSD directed the Navy to minimize further program obligations because of congressional and Naval Audit Service concerns about the adequacy of the program's management and oversight, and in recognition of the statutory restriction on obligations.

In February 1989, MAISRC disapproved milestone II revalidation because of IDAFIPS planning and design deficiencies. MAISRC directed the Navy to undertake specific tasks to correct these and other program management deficiencies. Nonetheless, MAISRC authorized the Navy to proceed with specified activities in order to protect the government's investment. Abrupt contract terminations, it was believed, could result in further increased costs and schedule delays. However, we found no supporting analysis of the effect of terminating contracts in the documentation provided to MAISRC during its decision process. In September 1989, near completion of many of the directed tasks, the Deputy Comptroller for Information Resources Management, Executive Secretary of MAISRC, urged acceleration of the MAISRC milestone II review. Such a review was never held, however, and the Congress canceled the program in November 1989.

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## Conclusions and Recommendations

Defense management is accountable for ensuring that no funds are obligated for major automated information systems that have not successfully completed oversight reviews. Defense management is also responsible for ensuring that automated systems are developed and deployed in an efficient and effective manner.

Although the statutory restriction on obligating funds has been incorporated into Defense's life cycle management policy, which provides a structured approach for the development and deployment of automated systems, Defense deviated from this policy and the restriction in three of the nine programs reviewed. In these cases, funds were obligated for activities that had not successfully completed required milestone reviews. Defense officials said that their actions to obligate funds before appropriate milestone approval was not in compliance with the statute, as well as existing Defense life cycle management policies, but decided to proceed anyway. They believed it was in the best interest of the government to avoid delays or increased costs to these programs.

Nonetheless, Defense officials cannot unilaterally decide to violate the statute and circumvent the intent of the Congress. Therefore, we recommend that the Secretary of Defense preclude any further obligations of funds before appropriate milestone approvals and report to the appropriations and oversight committees any instances in which funds have already been obligated for major automated information systems acquisition activities in violation of the statute.

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As requested, we did not obtain official agency comments on a draft of this report. However, we did discuss the contents of this report with OSD and service officials, and have incorporated their comments where appropriate. We performed our audit work from March through September 1990, in accordance with generally accepted government auditing standards.



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As arranged with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution of the report until 30 days from the date of this letter. At that time, we will send copies to the Chairmen, Senate and House Committees on Appropriations; the Secretaries of Defense, Air Force, Army, and Navy; and to other interested parties. We will also make copies available to others upon request. This report was prepared under the direction of Samuel W. Bowlin, Director, Defense and Security Information Systems, who can be reached at (202) 275-4649. Other major contributors are listed in appendix IV.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Ralph V. Carlone". The signature is fluid and cursive, with a large initial "R" and a long, sweeping underline.

Ralph V. Carlone  
Assistant Comptroller General

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Table III.1: Life Cycle Management Milestones

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## Abbreviations

ADP	automated data processing
AIS	automated information system
DMMIS	Depot Maintenance Management Information System
DOD	Department of Defense
GAO	General Accounting Office
IDAFIPS	Integrated Disbursing and Accounting Financial Information Processing System
IMTEC	Information Management and Technology Division
MAISRC	Major Automated Information Systems Review Committee
OSD	Office of the Secretary of Defense
PC-III	Personnel Concept III



# Objective, Scope, and Methodology

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On September 5, 1989, the Chairman, Subcommittee on Defense, House Committee on Appropriations, requested that we assess Defense's implementation of section 8070 of the fiscal year 1989 Department of Defense Appropriations Act. This section prohibits obligation of funds on major automated information systems that have not successfully completed oversight reviews required by Defense regulations. We agreed to conduct this review as a follow-up to a recent review of the MAISRC process and the subsequent report.<sup>1</sup>

To determine the congressional intent of the mandate, we reviewed the law and researched the legislative histories of the Department of Defense appropriations acts for fiscal years 1987 through 1990. We also reviewed applicable Defense life cycle management policies and procedures. To determine if Defense is complying with section 8070 of the fiscal year 1989 act, we reviewed past Defense and GAO audit reports, and met with Defense officials to research the oversight histories of nine major automated information systems that have been or are being developed by the Air Force, Army, and Navy. A list of these systems is included as appendix II. These systems were included in our prior review of the MAISRC process, and were reaffirmed by an OSD official under the current review as constituting a fair representation of major automated information systems and life cycle management experiences across the three services. These systems have also undergone oversight reviews since 1987, and are therefore subject to the statutory restriction on obligations. Because our selection of the nine systems was not a random sample, our audit findings cannot be projected to the entire universe of major systems being developed by Defense.

We performed our audit work from March through September 1990 in the Washington, D.C., area. As requested, we did not obtain official agency comments on a draft of this report; however, we discussed the contents of the report with OSD and service officials, and have incorporated their comments where appropriate. Our work was performed in accordance with generally accepted government auditing standards.

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<sup>1</sup>The results of this review are reported in Automated Information Systems: Defense's Oversight Process Should Be Improved (GAO/IMTEC-90-36, Apr. 16, 1990).

# Major Automated Information Systems Reviewed

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Air Force Depot Maintenance Management Information System  
Air Force Personnel Concept III Program  
Army Civilian Personnel System  
Army Integrated Procurement System  
Army Supercomputer Program  
Naval Aviation Logistics Command Management Information System  
Navy Engineering Data Management Information and Control System  
Navy Integrated Disbursing and Accounting Financial Information Processing System  
Navy Stock Point ADP Replacement Project

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# Definitions

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A milestone is the basic control mechanism of automated information systems life cycle management. The six life cycle management milestones represent the minimum set of decision points requiring direct senior management involvement in an automated information system.

A milestone review is a formal evaluation of the tasks completed during one life cycle management phase and plans for the next phase. A milestone review confirms the completion of the principal areas for planning and evaluation, and program management conformance to applicable Defense life cycle management policies and approval authority direction.

The purpose of each life cycle management milestone and the results of its approval are summarized in table III.1.

**Appendix III  
Definitions**

**Table III.1: Life Cycle Management  
Milestones**

<b>Milestone 0:</b>	The purpose of milestone 0 is to determine whether to proceed to the concepts development phase on the merit of the definition and justification of a mission need. A mission need statement is approved at milestone 0, and the Defense component is authorized to initiate the concepts development phase and to expend resources for the activities of that phase as planned.
<b>Milestone I:</b>	The purpose of milestone I is to select the best program after evaluating functional and technical alternatives that satisfy the approved mission need statement. The best program is the one that satisfies the mission need at the lowest total life cycle cost. The milestone I approval authorizes program management to initiate the design phase, and to expend resources for the activities of that phase as planned.
<b>Milestone II:</b>	The purpose of milestone II is to validate the adequacy of the selected automated information system design on the basis of completed detailed specifications. Milestone II approval authorizes program management to initiate the development phase and to expend resources for the activities of that phase as planned. Milestone II approval may include authorization to test and evaluate prototype capabilities at a set number of operational installations.
<b>Milestone III:</b>	The purpose of milestone III is to determine whether the completed, comprehensively tested, and operationally capable automated information system satisfies the mission need and is ready for deployment. Milestone III approval authorizes program management to begin deployment and expend resources for that phase as planned, to begin systems operations at each systems site upon completion of deployment at that site, and to transfer systems management responsibility from the program manager to the post-development manager in accordance with approved plans. The milestone III decision memorandum identifies the milestone IV approval authority for the automated information system.
<b>Milestone IV:</b>	The purpose of milestone IV is to assess post-deployment automated information systems operations, and to approve plans for short-term post-deployment systems modernization. Milestone IV occurs no later than 1 year after completion of systems deployment. Automated information systems post-deployment management submits a systems decision paper for review by the milestone IV approval authority. Milestone IV approval validates that the mission need is being satisfied, operational support of the system is acceptable, and systems affordability, performance, and benefits are within acceptable limits. It also authorizes systems post-deployment management to expend resources for approved, short-term, post-deployment systems modernization.
<b>Milestone V:</b>	The purpose of milestone V is to determine if the existing automated information system continues to satisfy revalidated mission needs, requires modernization, or should be terminated. Milestone V shall occur at a point halfway through the operational life of the system, or no later than 4 years after milestone IV, whichever occurs first. Milestone V approval authorizes systems post-deployment management to program resources for long-term systems modernization or replacement, and for initiation of the concepts development phase. A fully updated and revalidated mission needs statement is required for milestone V approval.

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# Major Contributors to This Report

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<sup>1</sup>Mr. Huber passed away in May 1990, before this review was completed. He had done important work concerning information systems oversight and review, leading to significant cost savings and improvements in Defense systems life cycle management.





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# Related GAO Products

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ADP Budget: Potential Reductions to the Department of the Air Force's Budget Request (GAO/IMTEC-90-57BR, Sept. 26, 1990).

Air Force ADP: Depot Maintenance System Development Risks Are High (GAO/IMTEC-90-46, May 25, 1990).

Automated Information Systems: Defense's Oversight Process Should Be Improved (GAO/IMTEC-90-36, Apr. 16, 1990).

Air Force ADP: The Personnel Concept III System Is Not Ready for Deployment (GAO/IMTEC-90-22, Feb. 27, 1990).

Automated Information Systems: Schedule Delays and Cost Overruns Plague DOD Systems (GAO/IMTEC-89-36, May 10, 1989).

ADP Acquisition: Navy's Efforts to Develop an Integrated Disbursing and Accounting System (GAO/IMTEC-89-20FS, Feb. 8, 1989).

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