

GAO

Report to the Chairman and Ranking  
Minority Member, Legislation and  
National Security Subcommittee,  
Committee on Government Operations,  
House of Representatives

April 1990

**AUTOMATED  
INFORMATION SYSTEMS**

**Defense's Oversight Process  
Should Be Improved**



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Information Management and  
Technology Division

B-238775

April 16, 1990

The Honorable John Conyers  
Chairman, Legislation and National  
Security Subcommittee  
Committee on Government Operations  
House of Representatives

The Honorable Frank Horton  
Ranking Minority Member, Legislation  
and National Security Subcommittee  
Committee on Government Operations  
House of Representatives

As requested in your May 18, 1989, letter, we have assessed the process used by the Office of the Secretary of Defense to oversee the development of major automated information systems. This report describes Defense policies on the development and oversight of automated information systems, explains how those policies have been implemented, and provides our observations on recent oversight reviews conducted by Defense's Major Automated Information System Review Committee.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to interested parties and 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 may be reached at (202) 275-4649. Other major contributors are listed in the appendix.

 Ralph V. Carlone  
Assistant Comptroller General

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# Executive Summary

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## Purpose

The Department of Defense spends about \$9 billion annually to acquire, operate, and maintain general purpose automated information systems. For more than 10 years, Defense policy for developing and overseeing systems has required a structured process which stresses sound financial management and continuing mission evaluation. However, because Defense has problems developing systems on time and within budget, the Chairman and Ranking Minority Member, Legislation and National Security Subcommittee, House Committee on Government Operations, asked GAO whether Defense is effectively controlling the acquisition of major automated information systems.

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## Background

Defense's policy for the life cycle management of major automated information systems requires thorough and effective oversight generally commensurate with the anticipated investment. The greater the investment, the higher the level of oversight. The Office of the Secretary of Defense (OSD) is required to oversee systems when development and deployment costs are estimated to exceed \$25 million in 1 year, \$100 million total, or if the system is of special interest. In the late 1970s, the Major Automated Information System Review Council (now Committee) was established by OSD to review systems requiring its oversight.

Representing the Secretary of Defense, the MAISRC reviews systems at established milestones during the development cycle to determine whether they should be continued, redirected, or terminated. The MAISRC members are senior-level Defense officials and the chairperson is the Assistant Secretary of Defense (Comptroller). Staff from various OSD offices assist the MAISRC members in reviewing major systems.

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## Results in Brief

OSD is not effectively enforcing established policies for controlling the acquisition of major automated information systems. The military services are responsible for managing automated information system development, and they are required to provide effective oversight even when the systems will be reviewed by the MAISRC.

GAO believes that the repeated identification of life cycle management deficiencies indicates that OSD needs to be more aggressive in holding the services accountable for compliance with Defense policies. For almost 10 years, OSD has been directing the services to correct non-compliance deficiencies on individual systems, and emphasizing the services' oversight responsibilities. While OSD's authority to redirect or terminate systems may be its most effective tool for holding the services accountable, GAO's

work indicates that OSD is not effectively using its authority when the circumstances indicate that such action is warranted.

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## Principal Findings

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### OSD Has Not Been Effective in Resolving Development Problems

Defense services and agencies have been criticized repeatedly by GAO, congressional committees, and others for developing systems that run over budget, behind schedule, and which do not operate as intended. Recent reviews by GAO, the Defense Inspector General, and the MAISRC blame many of these deficiencies on the services' failure to fully comply with established life cycle management policies and procedures.

For example, a February 1989 Defense Inspector General report<sup>1</sup> on information resources management within the three military services cited 240 instances of non-compliance with regulations. The report stated that the services encountered development problems because program managers did not follow established guidelines and regulations. In May 1989, GAO reported<sup>2</sup> on eight Defense systems which had experienced significant cost growth and schedule delays. GAO noted that service officials attributed the problems to underestimating the systems' original costs, design failures, program redirection, and enhancements to the original project scope. In October 1989, OSD concluded that the significant cost growth and schedule delays were generally due to weaknesses in (1) executing life cycle management policies, (2) the quality of program management decisions, (3) the effectiveness of service oversight, and (4) the currency and accuracy of oversight information provided to OSD.

OSD has taken a number of actions intended to enhance life cycle management policies and improve compliance by the services. For almost 10 years, OSD has emphasized the requirement that the services maintain their own review process. Although each of the services has implemented an oversight process, deficiencies persist in system development, particularly non-compliance with life cycle management policies and procedures.

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<sup>1</sup>Defense Inspector General, Report on Information Resources Management Within DOD (Report No. 89-03), February 17, 1989.

<sup>2</sup>Automated Information Systems: Schedule Delays and Cost Overruns Plague DOD Systems (GAO/IMTEC-89-36, May 10, 1989).

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## OSD Has Not Effectively Used Its Authority to Redirect or Terminate Systems

The MAISRC's reviews of system development efforts have generally raised a number of good questions and the MAISRC has directed the services to correct identified problems. At the same time, however, GAO's work shows that OSD has not made the tough decisions to redirect or terminate system development efforts when the circumstances indicate that it should.

GAO's analysis of nine systems reviewed by the MAISRC during the last few years showed that MAISRC staff—including analysts in OSD's Program Analysis and Evaluation and the Director of Operational Test and Evaluation offices—consistently identified deficiencies in major systems being developed by all three military services. Many of the deficiencies related to the services' inappropriate life cycle management task execution, and the services' failure to carry out their oversight responsibilities. For example, the staff identified deficiencies such as unjustified costs and benefits, unacceptable test plans, inadequate analysis of potential risks, ineffective program management, and incomplete system design. The MAISRC members were routinely made aware of these deficiencies and almost always brought the deficiencies to the services' attention.

GAO's analysis of the nine systems, as well as its own reviews of system development efforts, also shows that OSD has allowed system development efforts to continue despite development problems or the services' failure to comply with Defense policies. For example, OSD has allowed system development to continue when the MAISRC identified problems in the services' development approach, and when previous MAISRC guidance was not implemented.

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## Recommendations to the Secretary of Defense

GAO recommends that the Secretary of Defense make greater use of the authority to redirect or terminate system development efforts when the results of MAISRC reviews indicate that such action is warranted. To accomplish this, the Secretary should direct the MAISRC to (1) withhold milestone approval and prohibit further development on any systems that do not comply with Defense policies and (2) ensure that its decisions are reflected in the services' budgets.

To achieve a long-term solution to the problem of the services' non-compliance with Defense policies, the Secretary should direct the MAISRC to implement a separate procedure to periodically assess the adequacy of the services' oversight processes, and recommend corrective action when it determines that the processes are deficient. Such a procedure

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**Executive Summary**

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would give the MAISRC a basis for assessing the risk of non-compliance in individual systems and for holding the services accountable for failing to implement an acceptable oversight process.

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**Agency Comments**

GAO did not request official agency comments on a draft of this report. However, GAO discussed the report's findings with agency officials and incorporated their comments where appropriate.

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**Abbreviations**

DOD	Department of Defense
GAO	General Accounting Office
IMTEC	Information Management and Technology Division
MAISRC	Major Automated Information System Review Committee
OSD	Office of the Secretary of Defense
DOT&E	Director of Operational Test and Evaluation
PA&E	Program Analysis and Evaluation

# Background

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The Department of Defense spends about \$9 billion annually on automated information systems used to manage billions of dollars in logistics, personnel, and financial resources critical to its mission. Since the late 1970s, Defense has required a structured process called life cycle management for developing or modernizing major automated information systems. The process emphasizes the need to develop systems that will meet Defense requirements and stresses sound financial management and continuing mission evaluation. Life cycle management also requires Defense management to oversee systems and determine whether they should be continued, redirected, or terminated.

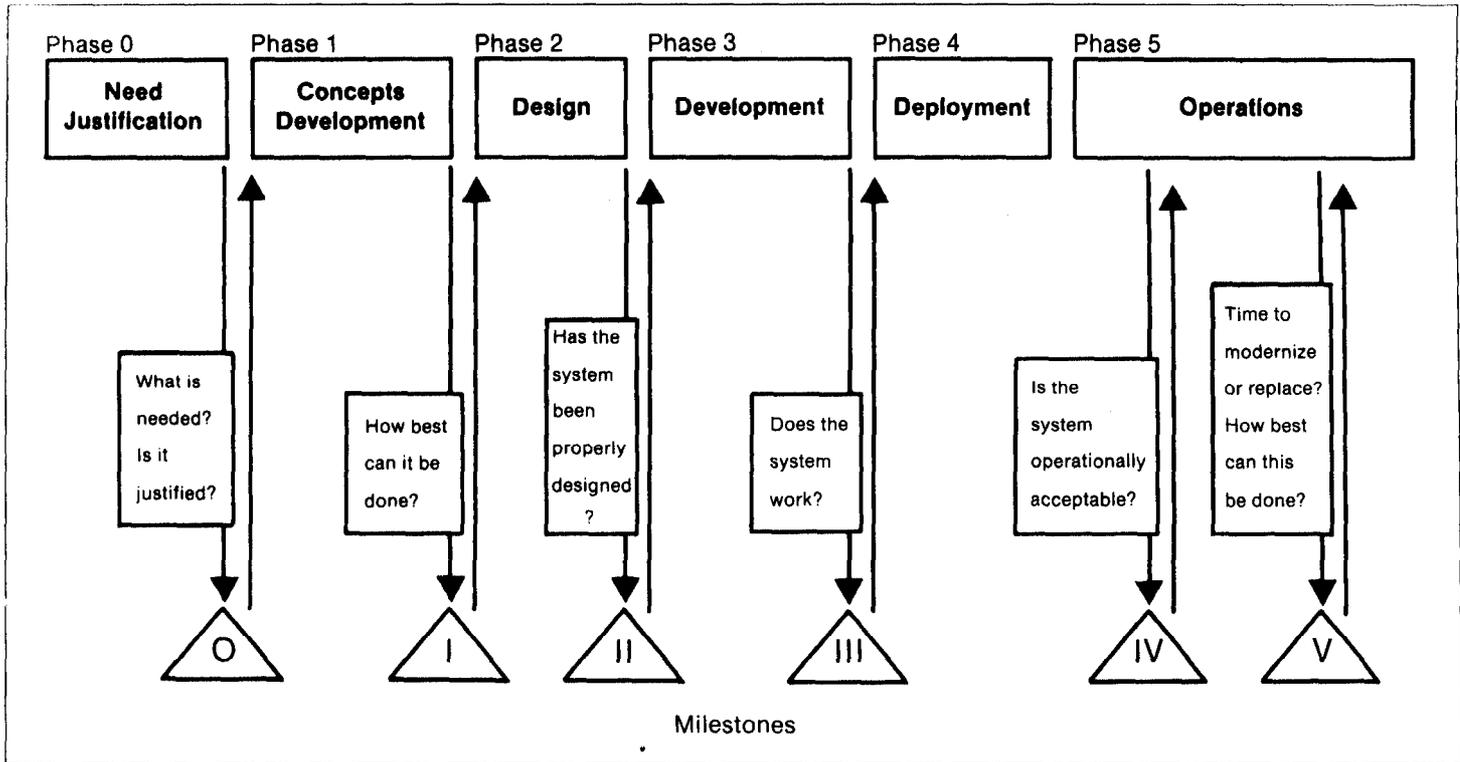
The level of oversight required by life cycle management generally depends on a system's cost—the greater the cost, the higher the level of oversight. The Office of the Secretary of Defense (OSD) established the Major Automated Information System Review Committee (MAISRC) to oversee the development of systems when cost estimates exceed \$25 million for 1 year, \$100 million total, or when the system is of special interest.

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## Life Cycle Management Is Fundamental to Defense's Oversight of Systems

Life cycle management is intended to ensure that Defense management is accountable for the success or failure of systems. Life cycle management is also intended to give Defense program managers a structured approach for developing automated information systems. Defense's guidelines for life cycle management define six development phases and six decision points (called milestones) where system progress is assessed and documented. Figure 1.1 shows the six life cycle management phases, the corresponding milestones, and the questions which must be affirmatively answered before a system can proceed to its next development phase.

Figure 1.1: Defense's Life Cycle Management Phases and Milestones



The decision to allow a system to proceed from one phase to the next is based, in part, on management's analysis of system documentation. Throughout development, the program manager is expected to maintain documentation that demonstrates the level of analysis and planning put into the system. The documentation is expected to be kept current and updated any time a change has been approved.

## The MAISRC Is Defense's Oversight Authority

As Defense's senior information resource management official, the Assistant Secretary of Defense (Comptroller) is the Chairperson of the MAISRC, and is responsible for conducting oversight reviews of major automated information systems. In addition to the Comptroller, the MAISRC is made up of technical, functional, and system sponsor representatives such as

- the Assistant Secretary of Defense for Command, Control, Communications and Intelligence, who provides insight on communications and security issues;

- the Assistant Secretary of Defense, Program Analysis and Evaluation (PA&E), who provides expert advice on program cost estimating;
- the Director, Operational Test and Evaluation (DOT&E), who provides expert advice on testing;
- the OSD functional sponsor, who validates the requirements; and
- a senior representative from the military service or Defense agency that is going to use the system.

MAISRC technical and functional support staff analyze and give an opinion on the quality and depth of each system's development plans. Prior to formal MAISRC oversight reviews, the support staff analyze a system's status and prepare summary documents for the MAISRC members. For example, PA&E analysts assess the adequacy of the service's cost/benefit and economic analyses and DOT&E analysts assess the service's test plans and test results.

During the oversight review, the MAISRC members determine, from an OSD perspective, whether the system is being developed in accordance with Defense policies, procedures, and regulations. Among other things, the MAISRC should analyze whether the service has taken steps to

- reduce the time and cost to develop and field automated information systems by maximizing the use of commercial products;
- avoid duplication and unnecessary expenditures on new systems by effectively using existing systems;
- minimize the cost of new systems by ensuring full and open competition; and
- effectively use advanced system design and software engineering technology to minimize software development and maintenance costs.

The MAISRC's review is intended to determine whether development should be continued, redirected, or terminated. The MAISRC's decision and any recommendations are documented in a System Decision Memorandum. When necessary, the memorandum is supposed to provide specific guidance to the military service on correcting problems.

The military services are responsible for establishing their own similar oversight and milestone approval processes for systems being developed or modernized. Among other things, the services are supposed to ensure that their systems follow life cycle management principles and adhere to program schedule and cost goals. The systems are supposed to be reviewed by senior-level service officials even if an OSD MAISRC review is to be held.

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## The MAISRC Has Delegated Oversight for Some Systems to the Services

Defense tries to minimize the layers of oversight by permitting the MAISRC to delegate its review and milestone approval authority to the services. The MAISRC normally maintains approval authority for the first two milestones, which focus on early decisions such as need justification, alternative concept analysis, and acquisition strategy. The MAISRC's attention to these early milestones is intended to ensure that early decisions establish a solid foundation for later development.

Before delegating approval authority for a system, the MAISRC is supposed to be assured that the service has an effective review and milestone approval process in place. At the time of our review, milestone approval for over half of Defense's 52 major automated information systems had been delegated to the services. When OSD delegates oversight authority to a service, the MAISRC is expected to monitor the system's progress to ensure its successful development is not jeopardized. The MAISRC has established the following criteria to determine whether delegation should be revoked:

- cost growth of 25 percent or more for the overall program,
- schedule slippage of 6 months or more,
- inadequate service oversight, or
- significant problems in the system's development.

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## Defense Is Reassessing the Acquisition and Oversight Process

In October 1989, the Deputy Secretary of Defense established the Department of Defense Corporate Information Management initiative. This initiative is intended to ensure the standardization, quality, and consistency of data from Defense's multiple management information systems, and to identify standard functional requirements for meeting Defense's management information needs. Industry leaders and senior-level Defense officials will be asked to recommend an overall approach and action plan for a Corporate Information Management program, evaluate the current oversight process, and recommend corrective actions. This group will also review the procedures of Defense groups, analyzing Defense's various functional areas including financial management, civilian personnel, and materiel management.

In addition, experts in Defense policy and information systems will develop concepts for improving Defense business practices. These experts will identify and develop standard functional requirements and data formats for each of Defense's functional areas. Recognizing that one goal of the initiative is to develop standard, departmentwide systems, Defense's fiscal year 1991 appropriations request reflected a \$288

million reduction of the services' and Defense agencies' automated data processing budgets.

In an effort to streamline Defense's acquisition process, in October 1989 the Deputy Secretary of Defense designated the MAISRC as a committee of the Defense Acquisition Board. The Comptroller will continue to serve as the MAISRC chairperson, and life cycle management principles and processes for major automated information systems are to remain in effect. The MAISRC is to continue to review major systems, and telecommunications programs, prior to Defense Acquisition Board meetings.

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## Objectives, Scope, and Methodology

The objective of this review was to determine whether Defense is effectively controlling the acquisition of major automated information systems. This review was requested by the Chairman and Ranking Minority Member, Legislation and National Security Subcommittee, House Committee on Government Operations. The May 18, 1989, request followed the Subcommittee's hearing on cost growth and schedule delays incurred by Defense in its development of eight automated information systems.

We assessed the process used by the MAISRC to oversee major automated information systems. This included an assessment of the input provided by the Deputy Assistant Secretary of Defense for Information Resources Management, the Assistant Secretary of Defense for Program Analysis and Evaluation, and the Director, Operational Test and Evaluation.

We also identified the process used by the Air Force, Army, and Navy to oversee system development. We limited our review to the three military services, because their systems represent most of Defense's automated data processing purchases.

To gain a thorough understanding of Defense's oversight process, we reviewed directives, instructions, and regulations pertaining to systems development and oversight. We also interviewed OSD and service staff who oversee the development of systems. For example, we interviewed the Deputy Assistant Secretary of Defense for Information Resources Management, and members of the Deputy's staff; officials from PA&E and DOT&E who participate in MAISRC deliberations; staff representing each of the services' senior information resources management officials; and program managers responsible for developing selected Air Force, Army, and Navy systems.

To assess the results of the oversight process, we reviewed nine systems which had been subjected to 11 MAISRC reviews from April 1987 through July 1989. The systems were the

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

Before reviewing the systems, we discussed our selections with the Deputy Assistant Secretary of Defense for Information Resources Management. The Deputy agreed that the systems we selected would provide an accurate illustration of the MAISRC review process. However, because our selection of the nine systems was not a random sample, our audit findings cannot be scientifically projected to the entire universe of major systems being developed by Defense.

We conducted our audit work from June 1989 to March 1990, primarily within OSD and at the Departments of the Air Force, Army, and Navy headquarters at the Pentagon, Washington, D.C. As requested, we did not obtain official agency comments; however, we did discuss the contents of this report with OSD officials, and have incorporated their comments where appropriate. Our work was performed in accordance with generally accepted government auditing standards.

# Defense Is Not Effectively Controlling System Development

In recent years the Department of Defense has been criticized by a number of sources for its failure to deliver automated information systems on time and within budget, which operate as intended. Many of the systems' problems have been caused by the military services' failure to fully comply with regulations, policies, and procedures, including life cycle management requirements. Although OSD has taken actions intended to improve the services' compliance with requirements and oversight of systems, problems still exist.

Specifically, our assessment of selected oversight reviews conducted by the MAISRC within the last few years has shown that the services' failure to fully comply with life cycle management continues to be a problem. We also found that OSD has not made the tough decisions to redirect or terminate system development efforts when the circumstances indicate that such actions may be warranted.

## Systems Developed by the Services Have Contained Numerous Deficiencies

Defense's problems in developing major automated information systems are well documented. Our work, reviews conducted by other audit organizations, and congressional inquiries have identified hundreds of instances in which the services have not complied with regulations, policies, and procedures when developing automated information systems. Specifically, systems experienced cost growth and schedule delays due to poor needs identification, inadequate investigation of alternative solutions, limited oversight, and incomplete justification of costs and benefits.

A February 1989 report<sup>1</sup> by the Defense Inspector General on information resources management concluded that the services were not rigorously complying with Defense's life cycle management policies and procedures. The report cited 240 instances of non-compliance with established regulations, and noted that most of the instances occurred during the initial two life cycle management phases—mission analysis/project initiation and concept development. The report also stated that the services encountered problems developing automated information systems because program managers did not follow established guidelines and regulations, not because they lacked guidance.

<sup>1</sup>Defense Inspector General, Report on Information Resources Management Within DOD (Report No. 89-INS-03), February 17, 1989.

In a May 1989 report<sup>2</sup> on eight Defense systems, we noted that the estimate to develop and deploy the systems had almost doubled—from about \$1 billion to about \$2 billion. In addition, the development of two of the systems had been abandoned after spending about \$237 million, and the completion dates for all but one of the remaining six systems had been delayed by 3 to 7 years. Moreover, all eight systems experienced problems to varying degrees regardless of whether they had been reviewed by the MAISRC. Our report noted that service officials attributed the problems to underestimating the systems' original costs, design failures, program redirection, and enhancements to the original project scope.

In response to congressional direction, OSD reviewed the history of the eight automated information systems to identify the causes of the problems. It concluded that the significant cost growth and schedule delays were generally due to weaknesses in (1) executing life cycle management policies, (2) the quality of program management decisions, (3) the effectiveness of service oversight, and (4) the currency and accuracy of oversight information provided to OSD. More specifically, OSD found that development problems were caused by the services' insufficient requirements analysis, inaccurate cost and schedule estimates, inappropriate development approaches, limited assessment of alternatives, and unreliable data provided to OSD.

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## **OSD Has Directed the Services to Improve Compliance and Oversight**

OSD has attempted to strengthen the services' oversight of automated information systems by emphasizing the services' responsibility to establish their own review processes similar to the MAISRC. In August 1981, for example, the Comptroller gave the services explicit guidance for monitoring system development in accordance with life cycle management policies and procedures. The Comptroller directed each service to establish a senior management review group to function as a decentralized version of the MAISRC. The management review groups were directed to provide overall policy direction and reinforce both accountability and primary management controls.

In March 1986, as part of an effort to clarify and streamline automated information system development, OSD emphasized the importance of life cycle management and system oversight. Specifically, the Comptroller stated that each service should have an accountable, executive-level

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<sup>2</sup>Automated Information Systems: Schedule Delays and Cost Overruns Plague DOD Systems (GAO/IMTEC-89-36, May 10, 1989).

review process based on the principles of life cycle management. The Comptroller also stated that effective service oversight processes are essential to achieve further streamlining by increasing the number of delegated systems.

Although all three services have senior oversight groups to review automated information systems, deficiencies in systems' development activities, particularly non-compliance with life cycle management policies and procedures, have persisted. As a result of OSD's in-depth analysis of the eight systems on which we reported, the need to improve the services' oversight of systems and compliance with established requirements was again emphasized. In October 1989, OSD directed the services to initiate action to ensure that the underlying weaknesses in life cycle management task execution, program management, and service oversight processes are corrected. Although the services submitted action plans in January 1990, OSD told the services that they were not specific enough and asked that they be improved.

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## **The MAISRC Continues to Identify Deficiencies and Recommend Corrective Action**

From April 1987 to July 1989, the MAISRC conducted 35 reviews of 22 systems being developed by the services and Defense agencies. We analyzed the process the MAISRC staff used to review nine of the systems being developed by the services, in order to determine the kinds of deficiencies it identified, whether they were brought to the attention of the MAISRC members, and if corrective action was recommended.

As shown in table 2.1, the MAISRC support staff identified one or more deficiencies in all but one of the systems.

**Chapter 2  
Defense Is Not Effectively Controlling  
System Development**

**Table 2.1: Deficiencies Identified by the MAISRC Support Staff**

System	Deficiencies Identified						
	Testing	Cost/benefit	Risk management	Program management	Configuration/capacity management	Development strategy	
Air Force Depot Maintenance Management Information System	X		X				
Air Force Personnel Concept III Program					X		
Army Integrated Procurement System	X	X					
Army Civilian Personnel System	X	X			X		
Army Supercomputer Program							
Navy Stock Point ADP Replacement Project	X	X					
Navy Engineering Data Management Information and Control System	X						
Navy Integrated Disbursing and Accounting Financial Information Processing System	X	X	X	X	X	X	X
Naval Aviation Logistics Command Management Information System	X		X			X	

Many of the identified deficiencies occurred because the services were not strictly following life cycle management policies and procedures. These deficiencies were almost always reflected in the System Decision Memoranda provided to the services after the MAISRC reviews. We also found that PA&E and DOT&E consistently provided input to the oversight reviews of the nine systems.

For seven of the nine systems, the MAISRC support staff noted deficiencies in the test plans submitted by the services. For example, in preparing for a June 1988 milestone I review of the Army's Integrated Procurement System, DOT&E determined that the Army needed to develop a test and evaluation master plan for the system. Although the MAISRC granted milestone approval, its System Decision Memorandum directed the Army to submit a test and evaluation plan within 6 months. According to a DOT&E analyst, the test plan was submitted in September 1989—15 months after the milestone review—and was subsequently approved by DOT&E.

Similarly, for four of the nine systems, the MAISRC support staff noted deficiencies in the services' estimates of system costs and benefits. For example, PA&E found that the Navy submitted an incomplete independent cost estimate and benefit analysis for the Integrated Disbursing and Accounting Financial Information Processing System. PA&E noted that the Navy, in estimating the system's cost, did not include all sunk costs, costs for government-furnished equipment and services, and operator expenses. The MAISRC System Decision Memorandum included a requirement that the Navy obtain PA&E validation of the system's life cycle cost estimate, independent cost estimate, and program benefits estimate prior to milestone approval.

Concerns about the adequacy of the services' risk analysis, program management, configuration and capacity management, or overall development strategy were also raised by the support staff for five of the nine systems we reviewed. For example, in preparing for a June 1989 review of the Air Force Depot Maintenance Management Information System, the MAISRC staff noted that the Air Force did not appear to have an active risk management program that would identify risks, develop plans to address those risks, and closely monitor the program for indications that problems are occurring.

In its System Decision Memorandum for this system, the MAISRC deferred approval of milestone II. The memorandum directed the Air Force to develop and document a risk management program that would consider risks related to cost, schedule, and technical implementation. According to an OSD official, the Air Force submitted its plans to address risk in October 1989, and the plans will be assessed before the next milestone II review.

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## **OSD Has Not Effectively Used Its Authority to Redirect or Terminate Systems**

While the MAISRC reviews we assessed have found deficiencies and recommended corrective actions, our work also shows that other problems have not been addressed. Specifically, the MAISRC did not take corrective action to ensure the services complied with its previous guidance, and failed to redirect or recommend terminating systems that had questionable acquisition strategies.

For example, during the fiscal year 1986 appropriations process, the Conference Committee on Appropriations expressed concern about the progress of the Naval Aviation Logistics Command Management Information System and directed OSD to conduct a MAISRC review. At that time, the system had been in development 9 years, full deployment was

4 years behind schedule, and oversight authority for the system was delegated to the Navy. The MAISRC reviewed the system in July 1986, and expressed concern that the Navy's plans to complete deployment of the system in 1996 would delay operational benefits. As a result, the MAISRC directed the Navy to complete deployment of the system by 1993. It also allowed the Navy to retain direct oversight responsibility for the system.

In a July 1989 review, the MAISRC staff noted that the Navy had not followed the 1986 guidance, that the estimate for full deployment had slipped to 1999, and that the Navy had spent \$233 million on the system. Nevertheless, the MAISRC granted conditional milestone approval for limited deployment of the system. The System Decision Memorandum directed the Navy to submit another assessment of alternatives for speeding up full deployment.

During a recent review of the Naval Aviation Logistics Command Management Information System,<sup>3</sup> we identified concerns about equipment acquisition and the sufficiency of stress testing and operational testing. During the fiscal year 1990 appropriations process, the Congress stated that it expects the MAISRC to ensure that the Navy addresses these concerns and achieves deployment of the system by 1995 as promised to the Congress.

During a recent review of an Air Force system, the MAISRC failed to identify a number of development problems. Following a June 1989 milestone II review of the Air Force Personnel Concept III system, the MAISRC commended the Air Force for having done an excellent job planning and executing the program. The MAISRC delegated future milestone approval and oversight authority for the system to the Air Force, and the System Decision Memorandum provided minimal guidance.

However, in a separate report<sup>4</sup> on this \$550 million personnel system, we found that the Air Force planned to deploy the system to 125 bases even though it had not (1) fully developed and tested the system, (2) fully analyzed requirements or alternatives for the hardware design, or (3) adequately supported personnel savings. As a result of our work, the Congress withheld further funding for the system until the Air Force

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<sup>3</sup>Computer Acquisition: Navy's Aviation Logistics System Not Ready for Deployment (GAO/IMTEC-90-11, Feb. 9, 1990).

<sup>4</sup>Air Force ADP: The Personnel Concept III System Is Not Ready for Deployment (GAO/IMTEC-90-22, Feb. 27, 1990).

demonstrates that the proposed hardware configuration is the most cost-effective alternative.

As a result of its review of the Navy's Integrated Disbursing and Accounting Financial Information Processing System, the MAISRC concluded that the system's overall program planning and design were not sufficient to grant milestone approval. However, despite the system's history of development failures, cost growth, and schedule delays, the MAISRC did not use its authority to recommend terminating the system.

When the MAISRC reviewed this system for the first time in February 1989, the system had been in development for more than 10 years, and the Navy had spent about \$94 million of the system's estimated \$591 million life cycle cost. The MAISRC found that

- the overall program planning and design of the system were not complete and did not meet life cycle management policy requirements,
- substantial development efforts had been implemented without the completed system design and without required senior Navy management oversight reviews,
- the development methodology, after two prior failed attempts, was unorthodox, and
- test plans were incomplete.

The MAISRC directed the Navy to take specific action to correct the numerous deficiencies identified during the review before further development of the system could proceed. For example, the Navy was directed to complete milestone II planning and analysis, complete the system's design efforts, and evaluate the risks associated with the unorthodox development approach. The corrective action was to be reported to the MAISRC within 6 months. However, the Congress subsequently denied fiscal year 1990 funds for this Navy system.

# Conclusions and Recommendations

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Our review has shown that OSD is not effectively enforcing Defense policies for controlling the acquisition of major automated information systems. Problems exist in two areas. First, OSD has not been effective in getting the services to develop automated information systems that comply with the requirements of life cycle management. Secondly, OSD has not terminated or redirected system development efforts when the services have not complied with life cycle management or other Defense policies.

Defense policies and procedures for automated information system development call for thorough and effective oversight commensurate with the anticipated investment. The military services are responsible for managing automated information system development, and they are required to provide effective oversight even when the systems will be reviewed by the MAISRC. MAISRC oversight is not intended to be a substitute.

Yet we found that OSD's oversight process is not holding the services accountable for compliance with Defense policies. It seems to us that OSD's authority to redirect or terminate systems when the MAISRC recommends withholding milestone approval may be the most effective tool OSD has to hold the services accountable for complying with Defense policies. Our work indicates, however, that rather than having the MAISRC withhold approval and reduce the services' budget requests for individual systems, OSD has tried to fix the problem by directing the services to correct non-compliance deficiencies on individual systems, and emphasizing the services' oversight responsibilities.

It is interesting to note that OSD recently used the budget process to push the services toward working with each other to develop standard systems. As part of its Corporate Information Management initiative, OSD reduced each of the services' fiscal year 1991 budget requests to reflect anticipated savings from the initiative.

We believe that the repeated identification of life cycle management deficiencies by the MAISRC indicates that OSD needs to be more aggressive in holding the services accountable for complying with Defense policies. We do not believe that OSD should rely on the MAISRC to routinely identify the services' non-compliance deficiencies during individual system reviews. Moreover, OSD should not be funding systems that are not in full compliance with established policies.

Some of the systems covered in this review, as well as others we recently reviewed, also indicate that OSD is not making the tough decisions to terminate or redirect development efforts when they need to be made. For example, the MAISRC has allowed systems to continue even though its previous guidance had not been implemented in a timely manner or when it has identified concerns about the adequacy of the service's development approach. On a number of occasions, the Congress has stepped in and provided specific guidance or denied funding when it has found that the MAISRC has allowed a system to proceed despite non-compliance or other development problems.

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## Recommendations to the Secretary of Defense

In May 1989, we recommended that the Secretary of Defense review and revise, as appropriate, the management control and decision-making process for major automated information systems development. We understand that the Secretary of Defense is reviewing the role of the MAISRC and that any necessary changes will be made based upon the outcome of the review. We support the MAISRC oversight process and recommend that the Secretary of Defense be more rigorous in enforcing policies for controlling the acquisition of major automated information systems.

Specifically, we recommend that the Secretary of Defense make greater use of the authority to redirect or terminate system development efforts when the results of MAISRC reviews indicate that such action is warranted. To accomplish this, the Secretary should direct the MAISRC to withhold milestone approval authority and prohibit further development when the services submit a system for review that does not comply with Defense policies. The Secretary should also direct the MAISRC to ensure that its decisions are reflected in the services' budgets.

In order to achieve a long-term solution to the problem of non-compliance, the Secretary should direct the MAISRC to implement a separate procedure to periodically assess the adequacy of the services' oversight processes, and recommend corrective action when it determines that the processes are deficient. Such a procedure would give the MAISRC a basis for assessing the risk of non-compliance in individual systems and for holding the services accountable for failing to implement acceptable oversight.



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# Related GAO Products

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Schedule Delays and Cost Overruns Plague DOD Automated Information Systems (GAO/T-IMTEC-89-8, May 18, 1989).

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

ADP Acquisition: Air Force Logistics Modernization Projects (GAO/IMTEC-89-42, Apr. 21, 1989).

ADP Acquisition: Defense Logistics Services Center Modernization Program (GAO/IMTEC-89-32, Mar. 20, 1989).

ADP Acquisition: Army Civilian Personnel System (GAO/IMTEC-89-22FS, Mar. 3, 1989).

ADP Acquisition: Naval Aviation Logistics Command Management Information System (GAO/IMTEC-89-21FS, Feb. 23, 1989).

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

Computer Procurement: Decision Needed on Navy's Standard Automated Financial System (GAO/IMTEC-88-47, Sept. 13, 1988).

ADP Systems: Army Decision to Use Air Force Military Pay System Appears Advantageous (GAO/IMTEC-89-28, Mar. 1, 1989).

Computer Systems: Navy Needs to Assess Less Costly Ways to Implement Its Stock Point System (GAO/IMTEC-89-2, Dec. 14, 1988).

Computer Procurement: Navy CAD/CAM Acquisition Has Merit but Management Improvements Needed (GAO/IMTEC-88-22, May 11, 1988).

ADP Procurement: Army Accounting System Modernization (GAO/IMTEC-88-14BR, Dec. 28, 1987).

Computer Systems: Navy Stock Point ADP Replacement Program Needs Better Management Controls (GAO/IMTEC-87-30, Sept. 17, 1987).

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