

**Audit**



**Report**

OFFICE OF THE INSPECTOR GENERAL

**TRANSITION OF NAVY MISSILE ACQUISITION  
PROGRAMS FROM PROGRAM MANAGEMENT  
OFFICES TO SUPPORT COMMANDS**

Report No. 98-004

October 7, 1997

**Department of Defense**

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October 7, 1997

**MEMORANDUM FOR ASSISTANT SECRETARY OF THE NAVY (FINANCIAL  
MANAGEMENT AND COMPTROLLER)**

**SUBJECT: Audit Report on Transition of Navy Missile Acquisition Programs From  
Program Management Offices to Support Commands  
(Report No. 98-004)**

We are providing this report for your information and use. We provided a draft version to you on September 4, 1997. This is the second of three reports resulting from our review of the transition of missile acquisition programs from program management offices to support commands.

Because this report contains no findings or recommendations, no written comments were required, and none were received. Therefore, we are publishing it in final form.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Mr. John E. Meling, Audit Program Director, at (703) 604-9091 (DSN 664-9091) or Mr. Douglas P. Neville, Audit Project Manager, at (703) 604-9076 (DSN 664-9076). See Appendix D for the report distribution. The audit team members are listed inside the back cover.

A handwritten signature in black ink that reads "Robert J. Lieberman".

Robert J. Lieberman  
Assistant Inspector General  
for Auditing

## Office of the Inspector General, DoD

Report No. 98-004  
(Project No. 6AE-5052.02)

October 7, 1997

### Transition of Navy Missile Acquisition Programs From Program Management Offices to Support Commands

#### Executive Summary

**Introduction.** This is the second of three reports addressing missile program transition from acquisition to support organizations. The first report addressed the transition of Army programs and the third report will address the transition of Air Force programs. The Naval Air Systems Command and the Naval Sea Systems Command were responsible for managing the missile acquisition programs that we reviewed.

**Audit Objectives.** The primary audit objective was to assess whether program management offices were transferring adequate funds and other resources to Military Department materiel commands for missile acquisition programs transitioning from program management offices. We also reviewed implementation of management controls applicable to transition management.

**Audit Results.** Unlike the Army and the Air Force, Navy systems commands do not transition their missile programs from program management offices to a sustainment organization. The Navy assigns to program managers the responsibility for managing and funding their respective missile systems from program concept to disposal. After a missile system is out-of-production, Navy program managers may assign certain functional tasks, such as engineering and logistics, to cognizant field support organizations. However, Navy program managers remain responsible for the missile program management throughout the life-cycle of the system. The Navy management approach minimized the potential for funding and management problems associated with the transition of missile program management responsibilities.

The management controls were effective in that we identified no material management control weaknesses. See Appendix A for details on the management control program.

**Management Comments.** We provided a draft of this report on September 4, 1997. Because this report contains no recommendations, written comments were not required, and none were received.

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## **Part I - Audit Results**

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## **Audit Background**

DoD Regulation 5000.2-R, "Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs," March 15, 1996, states that acquisition program responsibilities for programs not assigned to a program executive officer must be assigned to a commander of a systems, logistics, or materiel command. The regulation further states that to transition from a program executive officer to a commander of a systems, logistics, or materiel command, a program must:

- have achieved initial operation capability,
- be in full-rate production, and
- be logistically supportable as planned.

## **Audit Objectives**

The primary audit objective was to assess whether program management offices were transferring adequate funds and other resources to Military Department materiel commands for missile acquisition programs transitioning from program management offices. We also reviewed implementation of management controls applicable to transition management. In Appendix A, we discuss the scope and methodology used to accomplish the objectives, as well as management controls and prior audit coverage.

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## **Navy Life-Cycle Management Responsibilities for Missile Programs**

Unlike the Army and the Air Force, Navy systems commands do not transition their missile programs from program management offices to a sustainment organization. The Navy assigns to program managers the responsibility for managing and funding their respective missile systems from program concept to disposal. After a missile system is out-of-production, Navy program managers may assign certain functional tasks, such as engineering and logistics, to cognizant field support organizations. However, Navy program managers remain responsible for the missile program management throughout the life-cycle of the system. As a result, the Navy management approach minimized the potential for funding and management problems associated with the transition of missile program management responsibilities between organizations.

### **Life-Cycle Management and Transition Policy**

**Life-Cycle Management.** Secretary of the Navy Instruction 5400.15A, “Department of the Navy Research, Development and Acquisition, and Associated Life Cycle Management Responsibilities,” May 16, 1995, defines life-cycle management as program management responsibility that encompasses program acquisition, support, and final disposal. The term transition refers to the transfer of program support from a program manager to a cognizant field organization. Support consists of such elements as maintenance, systems engineering, and logistics. The Naval Air Systems Command was the only Navy systems command that issued implementing guidance concerning the management and funding of transitioned out-of-production missile systems. Appendix B contains a list of terms and definitions related to the transitioning of acquisition programs.

The instruction also assigns program executive officers and direct reporting program managers with responsibility for all aspects of life-cycle management for their assigned programs. They are responsible for formulating and defending program plans and budgets for the development, production, fleet introduction, and support of the missiles. Further, it states that program managers will be vested with the authority, accountability, and resources necessary to manage all aspects of the program from concept to disposal.

**Naval Air Systems Command Transitioning Guidance.** Naval Air Systems Command Instruction 5400.120A, “Management and Funding of Transitioned Out of Production Systems,” August 2, 1991, states that program managers are

## Navy Life-Cycle Management Responsibilities for Missile Programs

to transfer product support responsibilities to the field when missile systems are out-of-production and when the transfer is the most efficient way to manage the product. To ensure that the Navy product support responsibilities transition to field organizations in an orderly and efficient manner, the instruction requires program managers to prepare comprehensive transition plans sufficiently in advance of the transfer date to permit coordination, management review, and budgeting necessary to effect the transition. The instruction states that before missile systems are out-of-production, program managers can transfer some or all of the basic design engineering and logistics management responsibilities for missile systems to cognizant field organizations when the system design has stabilized and technical and logistics issues of production have been resolved. As the out-of-production date nears, the instruction indicates that program managers are to transfer the remainder of any technical and logistics elements of product support to the cognizant field organization. However, program managers are to retain program management responsibilities if they plan a major missile modification requiring DoD decision authority.

**Post Production Support Plan.** Naval Air Systems Command Instruction 5400.120A requires program managers to address transition planning in a post production support plan. The Defense Systems Management College "Glossary of Defense Acquisition Acronyms and Terms," May 1997, defines post production support as the "System management and support activities necessary to ensure continued attainment of systems readiness objectives with economical logistics support after cessation of production of the end item (weapon system or equipment)." The primary purpose of the plan is for program managers of missile systems to identify the necessary tasks associated with the missile's individual hardware items that have moved from a production environment to a post production environment. In the plan, program managers are to describe tasks, methodologies, and procedures that, when implemented, can lead to timely identification and resolution of post production support problems.

## **Navy Implementation of Transition Policy**

**Transition Implementation.** Navy program managers retained full responsibility for managing their respective missile systems throughout each missile system's life. In practice, Navy program managers determined that contracting with Navy field support organizations or contractors was the most efficient way to perform missile maintenance and support functions before the completion of missile production. After the completion of missile production, Navy program managers assigned or planned to assign basic design engineering and logistics management responsibilities to Navy field support organizations.

## Navy Life-Cycle Management Responsibilities for Missile Programs

For the five Navy missile systems reviewed, program managers retained full responsibility for program management but contracted for logistical support before the completion of missile production. Navy program managers retained management responsibilities for two reasons. First, all five missile programs were subject to major block upgrades during the production phase and, therefore, the system designs had not stabilized. Second, the program managers determined that retaining management responsibilities at the program office would be more efficient.

Specifically, the program manager for the Phoenix missile assigned logistics and systems engineering responsibilities to a cognizant field organization when the missile production was completed. Although the program manager for the Sparrow missile contracted for missile maintenance and support functions, he did not assign management responsibilities because the missile was still in production for foreign military sales. Similarly, program managers for the Standard missile and the Rolling Airframe missile did not assign management support responsibilities because major block upgrades were ongoing, and both were in full-rate production. Because the Trident II missile was in full-rate production, the program manager had contracted with Lockheed Martin Missiles and Space for maintenance and logistics support. Descriptive information on the five Navy missile systems that we reviewed is in Appendix C.

**Transfer of Support Functions.** The program manager for the Phoenix missile assigned systems engineering and logistics responsibilities to support organizations for sustainment. However, the program manager continued to perform the functions of overall program management and coordination. Moreover, the program manager retained programming, budgeting, and logistics planning responsibilities for the missile in accordance with Navy policy. In the post production support plan, the program manager provided a detailed budget funding profile for FYs 1994 through 1998. As compared with the budget funding profile, the program manager obtained the funding needed to satisfy missile funding requirements. Further, the program manager clearly documented in the post production support plan the authority and support responsibilities of the Deputy Assistant Program Manager for Logistics and the Assistant Program Manager for Systems Engineering that were assigned to the Naval Air Warfare Center Weapons Division, Point Mugu, California. After the functions were assigned, the Navy reassigned the individuals that were in the Phoenix program office, filling those positions to other projects.

**Comparison With Army and Air Force Transition Policy.** The management approach that the Navy used for missiles in the sustainment phase of the acquisition process is different from the one that the Army and the Air Force used. Army program managers transition total responsibility for missile program management, which includes funding and personnel resources, to an

## Navy Life-Cycle Management Responsibilities for Missile Programs

Army missile commodity command. The Air Force provides a single manager to serve as the single face to the users of their respective systems or products. As systems transition, the Air Force single manager then relocates to a support command. The Navy "cradle-to-grave" program management concept is similar to the Air Force single-manager concept. However, unlike the Air Force single-manager concept, the Navy missile program manager position does not relocate to a support command and continues to report to the program executive officer. Because the Navy does not transition missile systems from its program executive officer management structure, the Navy avoided problems that the Army and the Air Force encountered with transferring adequate funds to missile support commands and management layering. Also, because the Navy retained the same program office for missile systems from cradle-to-grave, Navy users were clear on the office that was responsible for problem resolution.

## **Part II - Additional Information**

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## **Appendix A. Audit Process**

### **Scope**

We conducted this audit from May through August 1997. We reviewed five Navy missile acquisition programs to cover the missile transition process at the Naval Air Systems Command, the Naval Sea Systems Command, and a direct reporting program manager. To determine whether Navy program offices were adequately funding and managing missile systems that met the DoD Regulation 5000.2-R criteria for transitioning, we reviewed five missile systems in various phases of the acquisition process. The five missile systems were the Rolling Airframe missile, the Standard missile, the Trident II missile, the Phoenix missile, and the Sparrow missile. The Rolling Airframe missile, the Standard missile, and the Trident II missile are in full-rate production, the Phoenix missile is out-of-production, and the Sparrow missile is out-of-production for U.S. Forces but in-production for foreign military sales. To accomplish the objective, we reviewed program data dated from March 1989 through August 1997. In addition, we reviewed program documentation for the five missile programs, including:

- the product support decentralization plan,
- the post production support plan,
- life-cycle cost estimates, and
- program executive officer and program manager charters.

Further, we discussed issues relating to transitioning missile acquisition programs with Navy program, technical, and logistical officials.

### **Methodology**

We conducted this program audit 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 management controls as we deemed necessary. We did not rely on computer-processed data or statistical sampling procedures to develop conclusions on this audit.

**Contacts During the Audit.** We visited or contacted individuals and organizations within the DoD. Further details are available upon request.

## Management Control Program

**Requirement for Management Control Review.** DoD Directive 5010.38, "Management Control (MC) Program," August 26, 1996, requires DoD managers to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

**Scope of Review of Management Control Program.** We limited our review because of relevant coverage in Inspector General, DoD, Report No. 96-028, "Implementation of the DoD Management Control Program for Major Defense Acquisition Programs," November 28, 1995. The report discusses the effectiveness of the management control program that the Defense Acquisition Executive and the Component Acquisition Executives used for major Defense acquisition programs. The report concludes that the acquisition community had not effectively integrated DoD Management Control Program requirements into its management assessment and reporting processes. As a result of the report recommendations, the Under Secretary of Defense for Acquisition and Technology integrated DoD Directive 5010.38 requirements into the March 15, 1996, revisions to DoD Directive 5000.1, "Defense Acquisition," and DoD Regulation 5000.2-R. Acquisition managers are now to use program cost, schedule, and performance parameters as control objectives to carry out the DoD Directive 5010.38 requirements. The managers are to identify material weaknesses through deviations from approved acquisition program baselines and exit criteria in the "Defense Acquisition Executive Summary" report.

Consequently, we limited our review of management controls to those related to transitioning Navy missiles from acquisition into sustainment. Specifically, we reviewed those management controls over planning, authorizing, implementing and documenting the transition of missiles. Because we did not identify a material weakness, we did not assess management's self-evaluation.

**Adequacy of Management Controls.** Management controls were adequate in that we did not identify any systemic management control weakness applicable to our primary audit objective.

## **Summary of Prior Coverage**

Office of the Inspector General, DoD, Report No. 97-197, "Transition of Army Missile Acquisition Programs From Program Management Offices to Commodity Commands," July 28, 1997, states that Army program management offices and the Army Missile Command generally managed the transition of missile systems and supporting equipment effectively. However, the Army did not provide sufficient Operation and Maintenance funds to fully sustain missiles and related equipment that had transitioned. Further, the funding problems associated with sustaining equipment were exacerbated by the fact that users were not always receiving credits for depot-level repairable items returned to the supply system. The report recommended the provision of sufficient funding to maintain the readiness of equipment as prescribed in Army guidance for the sustainment of fielded equipment. The report also recommended the establishment of a training program for users on the proper preparation of depot-level repairable turn-in documents and the timely shipment of items to the wholesale supply organization to obtain credits for returned items. The Army agreed to implement corrective actions in response to the report recommendations.

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## Appendix B. Terms and Definitions

**Cognizant Field Organization.** The cognizant field organization is the Navy field organization assigned the responsibility and delegated the authority to perform all or portions of the in-service functions, procurement support, or both, for specific service equipment.

**Life-Cycle Management.** Life-cycle management is management responsibility for a program that encompasses the acquisition program, in-service support, and final disposal.

**Program Executive Officer.** The program executive officer is a military or civilian official who has primary responsibility for directing several acquisition programs. A program executive officer has no other command or staff responsibilities within the DoD component and only reports to and receives guidance and direction from the DoD Component Acquisition Executive.

**Program Manager.** A program manager (also called project manager, product manager, or program director) is the official responsible for managing a specific acquisition program. The program manager reports to and can receive direction from a program executive officer, the commander of an acquisition command, or a component acquisition executive. The program manager is responsible for understanding the requirements, environment, organizations, activities, constraints, and motivations having an impact on the acquisition program. The program manager is to be knowledgeable of and understand how to operate within the constraints imposed by the requirements generation system, the acquisition management system, and the planning, programming, and budgeting system. Further, the program manager coordinates the work of defense industry contractors, consultants, in-house engineers, logisticians, contracting officers, and others, whether assigned directly to the program office or supporting it from a component functional matrix organization.

**Single Managers.** Single managers are responsible to their customers for all aspects of the planning, development, sustainment, and evolution of the products that they acquire and support. Single managers serve as the single face to the users for their respective systems or products. Single managers are responsible for program performance and overall health of the products.

**Sustainment.** Sustainment is program office management actions taken during the deployment phase of the life cycle of a weapon system. Sustainment takes place after the system has reached the start of production and initial operational

## **Appendix B. Terms and Definitions**

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capability. Sustainment also refers to the upgrades, modifications, overhaul and repair, and operations and support activities that take place within the system life cycle.

**Transition.** Transition is the phased transfer of program support or program management of weapon systems and components from the program manager to designated cognizant field organizations. The transfer normally coincides with the life-cycle progression of the system or component and includes the responsibility to plan, program, and budget out-of-production resources support.

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## Appendix C. Descriptive Information on Selected Missile Programs

**Phoenix Missile.** The Naval Air Systems Command assigned program management responsibility for the Phoenix missile to a program manager reporting to the Program Executive Officer for Tactical Aircraft Programs. The Phoenix missile is a supersonic, radar guided, long-range, air-to-air missile. It is carried in clusters of up to six missiles on the F-14 Tomcat aircraft. The Phoenix missile defeats multiple air targets in an all-weather, heavy jamming environment. The Phoenix missile provides the sole long-range, multi-target, air-to-air intercept capability for the Navy. First deployed in 1974, the Phoenix missile is out-of-production and in sustainment. General Motors Corporation Hughes Aircraft, Missile Systems Group, has completed over 5,000 Phoenix missiles. The Navy lists the unit cost of a Phoenix missile at \$477,131.

**Sparrow Missile.** The Naval Air Systems Command assigned program management responsibility for the Sparrow missile to a program manager reporting to the Program Executive Officer for Tactical Aircraft Programs. The Navy Sea Sparrow missile and the Air Force Sparrow missile are radar-guided, air-to-air missiles with high explosive warheads. The Navy uses its Sparrow missile version aboard ships as a surface-to-air anti-missile defense. The Air Force uses the Sparrow missile as a medium-range air-to-air missile system. The Sparrow missile has all-weather, all-altitude operational capability and can attack high-performance aircraft and missiles from any direction. Deployed in 1976, the Sparrow missile can be fired from the Navy F-14 and F/A-18 aircraft and the Air Force F-4, F-15, and F-16 aircraft. The Sparrow missile is fielded and is no longer produced for U.S. needs, although Raytheon is still producing the Sparrow missile for multiple foreign military sales contracts. The Sparrow missile's unit cost is approximately \$165,400.

**Trident II Missile.** The Director, Strategic Systems Programs, a direct reporting program manager, manages the Trident II missile. The Trident II Strategic Weapons System program office developed an improved Sea Launched Ballistic missile with greater accuracy and payload capability at equivalent ranges as compared with the Trident I system. The missile enhances U.S. strategic deterrence by providing a survivable sea-based system capable of engaging the full spectrum of potential targets. It enhances the U.S. position in strategic arms negotiation by providing a weapon system with performance and payload flexibility that accommodates various treaty initiatives. The Trident II

## **Appendix C. Descriptive Information on Selected Missile Programs**

missile achieved initial operational capability in March 1990. The Navy reported a procurement objective of 434 Trident II missiles with an estimated unit cost of approximately \$30 million.

**Standard Missile II, Blocks IIIA, IIIB, and IV.** The Naval Sea Systems Command assigned program management responsibility for the Standard missile to a program manager reporting to the Program Executive Officer for Theater Air Defense. The Standard missile II is a modular, all-weather, surface-to-air missile for medium and extended range engagements. The Standard missile II is equipped on a variety of cruisers, destroyers, and frigates of several Western navies. A division of General Dynamics Corporation, now owned by Hughes and part of its Missile Systems Company, Tucson, Arizona, developed and manufactured the Standard missile. In 1995, Hughes and Raytheon established a single industrial group to manufacture the Standard missile II, to be known as the Standard Missile Company, Falls Church, Virginia. The first block of the Standard missile II began production in 1980. Full-scale production continues, as does development of new models. Standard missile Blocks IIIA and IIIB achieved initial operational capability in January 1994. The Navy lists the unit cost of a medium-range Standard missile at \$421,400 and an extended range missile at \$409,000.

**Rolling Airframe Missile Blocks 0 and I.** The Naval Sea Systems Command assigned program management responsibility for the Rolling Airframe missile to a program manager reporting to the Program Executive Officer for Theater Air Defense. The Rolling Airframe missile is a supersonic, lightweight, anti-missile, quick-reaction missile. Capable of being fired from a variety of launching systems, the Rolling Airframe missile is a fire-and-forget missile using a dual-mode, passive radio frequency/infrared guidance system from the Stinger. General Dynamics, Ontario, California, and RAM (Rolling Airframe missile) Systems GmbH of the Federal Republic of Germany developed the Rolling Airframe missile. The program is currently proceeding with Block 0 full-rate production and with Block 1 engineering and manufacturing development. The United States is considering an additional buy of 1,750 missiles. The estimated unit cost for the Rolling Airframe missile is \$264,779.

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